



## **MDP – IFAD- UNIVERSITY WIN-WIN PROJECT**

**EFFECTIVENESS OF CONSORTIA PLATFORM IN ENHANCING SMALLHOLDER PRODUCERS' ACCESS TO MARKET, A STUDY OF PADDY FARMERS IN Sengerema District, Mwanza Region in Lake Zone, Tanzania**



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## ACRONYMS/ABBREVIATIONS

AfDB	African Development Bank
AMCOS	Agricultural Marketing Cooperative Society
ASDP	Agriculture Sector Development Program
BDS	Business Development Service
CARI	Competitive African Rice Initiative
CESDEV	Centre for Sustainable Development
DPP	Development Practice Programme
EAC	East African Community
EAAPP	East African Agricultural Productivity Programme
FAO	United Nations Food and Agricultural Organization
FGD	Focus Group Discussion
GAP	Good Agricultural Practices
GDP	Gross Domestic Products
GPS	Global Positioning System
IFAD	International Food and Agricultural Development
IMF	International Monetary Fund
MATI	Ministry of Agricultural Training Institute
MIS	Marketing Information Service
MDP	Master's in Development Practice
MT	Metric Tonnes
MIVARF	Marketing Infrastructure, Value Addition and Rural Finance
PHH	Post-Harvest Handling
PRS	Poverty Reduction Strategy
PEML	Producer Empowerment Market Linkage
PSDS	Private Sector Development Strategy
RCV	Randomization Control Variable
REACTS	Regional East African Community Trade in Staples
RRCoE	Regional Rice Centre of Excellence
RGL	Raphael Group Limited
SACCOs	Savings and Credit Cooperatives
SHIRCO	Southern Highland Rice Consortium
SME	Small and Medium Enterprises
SP	Service Provider
SPSS	Statistical Package for Social Sciences

SWOT	Strength, Weakness, Opportunity and Threat
TZS	Tanzanian Shillings
UNDESA	United Nations Department for Economic and Statistics Agency
USD	United States Dollars
USAID	United State Agency for International Development
UI	University of Ibadan
WEF	World Economic Forum
WFP	World Food Programme
WHS	Warehousing System

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## ABSTRACT

Approximately 1.5 billion people are engaged in smallholder agriculture across the world. They include 75% of the world's poorest people whose food, income, and livelihood prospects depend on agriculture. They mainly live in rural communities. Despite their important role as food producers and rural stewards, the commercial prospects for millions of poor smallholders remain challenging. (Ferriset *al*2014). Tanzania is a major country in the East African Community (EAC), where agriculture is a major source of revenue, contributing more than a quarter of the country's GDP. Smallholder farmers currently grow up to 70% of rice production in Tanzania. These smallholders face different challenges, one of which is access to market. Given this challenge, finding ways to link smallholder farmers to markets is generally considered a critical part of any long-term development strategy to reduce poverty and hunger. To effectively address this, an approach was introduced known as the consortium platform. An approach developed to improve agricultural productivity and as well improve the income of the farmers. (MIVARF, 2017)

This study focused on finding out the effectiveness of the consortium platform in enhancing smallholder producer paddy farmer's access to market. The study was carried out between March and May, 2018. The study area is Sengerema District in Mwanza Region of Tanzania, in a rice sub sector of 5 Wards which includes; Kishinda, Katunguru, Nyanzenda, Nyakasungwa, and Nyakalilo, with total of 107,927 people. Simple Random Sampling technique was used to select 344 smallholder paddy farmers out of 1,376 farmers involved in the consortium platform. Convenience sampling was also used to select 16 other stakeholders in the value chain. The sample size of 344 was arrived at by using 25% of the total population of 1,376.

Both quantitative and qualitative data were gathered, using primary and secondary data sources. Primary data were gathered through the use of structured questionnaire, (close and open-ended), KII, FGD and through direct observation on the field as well. The secondary data were collected from journals, newsletters, baseline survey, published research works and books. Descriptive statistics were used (frequencies, percentage, ratio, means, and standard deviation). Inferential statistics (t-test) were equally used to ascertain the distribution of variables in the study to determine the general effectiveness of the consortium approach in the study areas. The methodology employed in this study is **Experimental and Control variable**, so as to establish a causal relationship between intervention of the consortium platform and outcomes on productivity and income of smallholder farmers before and after their membership of the consortium platform.

The study finds out that though majority of the smallholder farmers have witnessed tremendous improvement in their production since their involvement in the consortium platform, nevertheless, they still find it difficult transiting from smallholder farming to commercial farming as majority of them do not still cultivate more than 2 acres of land despite the benefits they derive from the platform. Largely, the approach has been effective in enhancing the smallholder producers' access to market. However, other

potential stakeholders need to be identified and incorporated in the consortium team. The other potential stakeholders include: AMCOS/Value Chain, Agribusiness Company, Insurance Company. Research centres, Value Chain Development Partner and Neutral facilitator. The approach should be extended to other farmers, crops and regions. The dependency on donors for continuity which excludes youths in agribusiness and lack of gender-friendly labour saving technology should be reconsidered.

## CHAPTER ONE: INTRODUCTION

### 1.1 Background to the study

Agriculture in developing countries has a large potential to contribute to poverty reduction and economic development. A good percentage of people in developing countries live in rural areas and depend on agriculture for their livelihoods. However, for agriculture to become a tool for economic development, a revolution in smallholder productivity is necessary. In East Africa, agriculture account for about 80% of the workforce, yet, East Africa Community (EAC) is characterised with low agricultural productivity and low income, thus, rated amongst the poorest in Africa, (CARD-IFAD, 2010)

Growth in the agricultural sector in Tanzania has persistently been lower than the levels required to reduce poverty significantly and improving the livelihoods as well as living standards of the majority of the population. According to State of East Africa Report (2016), about 11,679,275 people particularly in Tanzania still live below poverty line. These 37,613,489 representing 67.7% of people live in the rural areas and semi-rural, majority of them are smallholder farmers who depend on agriculture for their means of livelihood, (World Bank, 2017). Mwatawala *et al*, (2016), reported that poverty in Tanzania is more endemic among households engaged in crop farming, livestock keeping, fishing and forestry. This is due to the fact that these smallholder farmers are constrained by low productivity and income paucity resulting from poor access to market, lack of access to credit facility and technology, poor access to farm input among other problems.

One of the major challenges militating against the efforts of the smallholder producer is access to market. Market access for farmers means the ability to acquire farm inputs and the capability to deliver agricultural produce to buyers. Access to domestic and international markets by smallholder producers means they can sell more produce at higher prices. With improved resources, farmers can link up with new markets and engage in value-adding activities. However, among smallholder producers, market linkages are often weak and basic infrastructure, such as roads, transportation and rural electrification, are still needed in order to enable them have access to markets. Studies reveal that smallholders have difficulties facilitating their own development (IFAD 2010).

The smallholder farmers in the paddy value chain are not invulnerable to these challenges. Paddy production is also being affected by the problem. Meanwhile, according to a baseline report by MIVARF (2017), an approach called the innovation platform was introduced to bring the stakeholders in agriculture value chain together. This was not too successful and was later reviewed to a more participatory model called the consortium platform, taking into cognisance all the factors responsible for the failure of the initial platform.

The consortium approach brings together with equal representation the small producer farmer groups, the buyers/off takers, improved input providers, implement providers, finance providers, extension service providers, market information providers and other stakeholders, with government at the other end standing as a regulatory body. These stakeholders come together to do business as they plan for the planting season with market specifications as a guide for their activities.

## **1.2 Problem Statement**

Studies have been carried out on farmers' access to market, effective market linkage approach and so on, but no study has been specifically carried out to investigate the effectiveness of paddy consortia platform in Sengerema. Among all the value chains involving different staple and cash crops as well as fish and livestock in 73 districts across Tanzania mainland and Zanzibar, paddy is by far the lead in the value chain (34% of districts), followed by sunflower and maize, bananas, cassava and fish, sesame, cashew nuts and various horticulture crops (including garlic, onions, citrus, apples, avocados, grapes, yams), as well as meat and dairy products (IFAD 2016).

Farmers in Sengerema particular were producing paddy/rice, but every season they struggle to access the needed farm inputs (improved seeds, quality fertilizers and crop protection products) at the right time, in the right quantity and quality and for a reasonable price. They often do not have the needed cash or credit to pay for the inputs. After harvest, the farmers struggle to sell paddy. Often, they have no choice but to sell their paddy at the local market (middle man) for a low price. They were not organized (institutional arrangement) and do not have the capacity (skills) either to negotiate for better prices, or to store their paddy until prices increase. Even the basic options needed to add value were beyond their reach (MIVARF, 2016)

Access to market has been a major challenge of farmers in Tanzania, especially the smallholder producers. This problem is increasingly impeding their productivity, household livelihood and poverty alleviation. Smallholder producers' organizations often lack knowledge of market mechanisms and how to link with buyer groups to sell their produce/products. Many smallholder producers lack marketing skills, including information on pricing, marketing channels and consumer preferences, as well as knowledge on costs of production and hence the competitiveness of their produce. There is also the problem of poor rural infrastructure to facilitate the movement of goods from smallholder farmers' farms to markets. Due to limited capacity and capabilities, smallholders often have difficulties to explore new market opportunities. Therefore, they need support that aims to organize and coordinate their production processes and establishes new market linkages. This lack of effective linkage approach has hampered farmers productivity and growth leading to the need to establish the current consortium approach which is expected to lead to transformation for the smallholder farmers (IFAD, 2010).

This study aimed to ascertain the effectiveness of this consortium approach with regards to paddy (rice) production particularly in Sengerema District, Mwanza Region in Lake Zone of Tanzania.

### **1.3 Justification/Significance of the Study**

The study will bring to fore and ascertain effective market linkage approach that can enhance smallholder farmers' access to market which will lead to improved market opportunities and increased value addition for the farmers. This will ultimately result to increased incomes of the smallholder producers. These benefits will primarily result to: (i) improved access to markets and information; (ii) reduced transaction costs; (iii) reduced post-harvest losses; (iv) enhanced food safety; (v) improved product quality and increased producer (farm gate) prices; (vi) increased output and productivity; and (vii) improved economies of scale, (IFAD 2016)

It will also increase output, income and employment in rural areas which will result in increased demand for goods and services, which is expected to generate additional income and employment, and increase government tax revenues. This will also result to increased exports and/or reduced imports which will likely result in foreign exchange earnings/savings. Furthermore, consumers may benefit from improved availability of better quality paddy, and hence improved food security.

Other institutional benefits expected from the programme are: (i) effective functioning of producer and marketing groups; (ii) sustainable management of consortia platforms by all stakeholders. There will be more coordinated approach through which farmers, processors, retailers, and others in the supply chain would continue to work together while looking at production activities within the context of the whole supply chain.

### **1.4 Research Questions**

The study intends to investigate the effectiveness of this paddy consortium platform in enhancing smallholder producers' access to market by providing answers to the following research questions:

1. What are the form of relationship and engagement that exist between smallholder farmers and other stakeholders on the consortia platform?
2. What are the benefits, if any, derived from the consortium platform by smallholder farmers?
3. Is there any change in productivity leading to improvement in the level of sales and income of the smallholder farmers since their involvement in the consortium platform?
4. What are the challenges, if any, faced by smallholder farmers in their involvement in the consortium platform?
5. What are the critical factors for sustainability in the structure/partnership model of paddy Consortia platform?

6. What are the personal and enterprise characteristics of the smallholder paddy farmers participating in the consortia platform?

### **1.5 Objective of the study**

The overall objective is to investigate effectiveness of the paddy consortia platform in enhancing smallholder producer access to market. Specific objectives are as follow:

1. Identify the personal and enterprise characteristics of the smallholder paddy farmers participating in the consortium platform.
2. Identify the benefit or kinds of support (training, finance, extension services/technical support, inputs, market information etc) derived from involvement in the consortium platform by the participating smallholder paddy farmers,
3. Ascertain the change in productivity leading to improvement in level of sales and profitability among smallholder paddy farmers as a result of involvement in their consortium platform,
4. Determine the challenges faced by smallholder paddy farmers in their involvement in the consortium platform,
5. Examine the critical factors for sustainability in the structure/partnership model of the paddy Consortia platform,
6. Examine how smallholder farmers perceive and engage with other stakeholders on the consortium platform.

#### **1.5.1 Analysis of Objectives of the study**

Objective (1) was to identify the demography of the respondents so as to be able to place them accordingly, with structured questionnaire, questions were asked about their personal and economic characteristics like; age, gender, marital status, income level, family size, source(s) of farmland, sources of labour, years of experience in farming, other sources of income, membership of farmers association and so on, to determine how these affect their productivity and livelihoods.

Objective (2) tries to examine how these respondents (smallholder farmers) perceive and engage with other stakeholders on the consortia platform. Using Key Informant Interview and Focus Group Discussion to find out the mode of operation of the platform, the relationship that exist among all the stakeholders, who among the stakeholders are the most important, are their expectation being met, does the operation put some people at a better advantage than the others? Just to find out if members derive mutual benefits from the platform.

Objective (3) was to Identify the benefit or kinds of support (training, finance, extension services/technical support, inputs, market information etc) derived from involvement in the consortia platform by the participating smallholder paddy farmers, before and after their involvement in the platform so as to

ascertain if the platform is effective in meeting their demands and expectations. This was done with the aid of a structured questionnaire.

Objective (4) intend to ascertain the change in productivity leading to improvement in level of sales and profitability among the respondents (smallholder paddy farmers) as a result of their involvement in the consortium platform, so questions were asked about their size of land cultivated, income, source of labour, source of farmland membership of farmers association, etc, before and after their involvement in the platform.

Objective (5) is about the challenges faced by the respondents (smallholder paddy farmers) in their involvement in the consortia, place side by side with their experience before and after joining the platform, in terms of access to finance, inputs, market information, storage facility, technical support, extension services, to ascertain if their involvement in the platform as really make any difference.

Objective (6) seek to find out the sustainability factor concerning the operation of the platform, is there contractual agreement between the farmers and off takers before they were borrowed money, any recovery measure in case of default by any of the parties, who stands as the regulatory body for all the parties involved, and so on, this is to establish the fact that the programme would continue to service the purpose for which it was set out. This was done by asking critical questions from various stakeholders like the heads of farmers association, service providers, financial institutions, big buyers etc.

The final outcome of this study is to empower farmers and other stakeholders in the agribusiness achieve sustainable income growth and food security. The findings will be useful to stakeholders like the programme, ministries of agriculture and organised farmer groups, and the entire county of Tanzania.

## **1.6 Research Hypothesis**

The study tends to measure the effectiveness of paddy consortia platform in enhancing smallholder farmers' access to market. Some indicators will have to determine how effective the consortium platform has been in helping farmers to gain mileage in their agribusiness, so, the study sought to know if;

1. There is significant difference in the level of sales (change in unit sales) by the farmers before and after their involvement in the platform?
2. There is significant difference in the profitability (unit margin) of the farmers before and after their involvement in the platform?
3. Farmer derives benefits/support as a result of their involvement in the platform

## 1.7 Definition of Concepts

### 1.4 Plan of the Study

The duration of the DPP internship programme was three months than span March to May2018, the detail work plan is scheduled bellow;

S/Ns	Activity	MARCH 2018		APRIL				MAY 2018	
		1	2	3	4	5	6	7	8
		1	Preparation and travel plan to field site	■					
2	Familiarity with the project team members		■						
3	Work with the project design plan and visit to some field site			■					
4	Start keeping records on lessons learnt				■				
5	Sourcing of relevant information on the project					■			
6	More trip to field project site						■		
7	Develop internship report							■	
8	Presentation of internship field report to supervision								■



## CHAPTER TWO: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

### 2.1 Conceptual Framework

Literature abounds on access to market as a major problem confronting agribusiness particularly among smallholder farmers. Many scholars have written on this subject of market access or access to market as the case may be. Although, this is seen from different perspectives by scholars in different fields like; Marketing Communications, Consumerism, Business Administration, Public Relations and Advertising, Commerce and Industry, International Trade and so on. However, in agribusiness, produce market is it. According to IFAD (2010), market access for farmers means the ability to acquire farm inputs and farm services, and the capability to deliver agricultural produce to buyers, similarly, Van Schalkwyk *et al.*, (2012) opined that markets provide the opportunity to generate income, contributing to a reduction in poverty and hunger in developing countries. Markets also drive production to meet consumer demand in terms of quantity and quality.

#### Approaches to linking producers to markets

Andrew W Shepherd (2007) in a paper examined experiences of linking farmers to markets, reached some tentative conclusions regarding success factors. He considered examples of linkages promoted both by linking organizations and by the private sector without external support and then reviews in detail the linkage activities of the former. Emphasis is placed on markets chosen for linkages, on the capacity of the linking organizations, and on the relationship between the private sector, linking organizations and farmers. Mutual trust between all actors in a chain as essential and the paper discussed how such trust could be developed. He posited that linking farmers to new markets invariably involves farmers organizing into formal or informal groups. Experiences with group organization are reviewed, as is the question of finance. Problems faced by farmers in maintaining linkages are examined and sustainability and scaling-up of linkage activities considered.

Andrew believes that working with farmers will have little impact if the enabling environment that governments provide is inappropriate for development of market linkages. Although, he is of the opinion that a question that may merit research is whether linking organizations are actually increasing the size of the market or whether they are just replacing one group of farmer suppliers with a new set of “target beneficiaries”.

These are presented according to the ways in which farmers are linked to the buyers. The examples provided are used to draw lessons about the various approaches and their likelihood of success. Both negative and positive aspects of the different approaches are therefore considered. Types of linkage were categorized according to Andrew W Shepherd (2007) as follow;

- Farmer to domestic trader;

- Farmer to retailer;
- Linkages through a leading farmer;
- Linkages through cooperatives;
- Farmer to agro-processor;
- Farmer to exporter;
- Contract farming.

Meanwhile, all these categories of linkage mentioned and others, if any, are to be brought together under one umbrella called the consortium platform, which is the focus of this study. The traders, farmers, agro-processor, cooperatives, government, service providers, exporter, etc, are expected to work together for mutual benefit on the same platform.

### **Conceptual Clarifications**

The main issues in this study are; Smallholder Producers – who are referred to in the study as those farmers who cultivate 2 ½ acres of land and below; The Consortium Platform, as a market linkage approach, how it is structured to enhance smallholder farmers’ access to market. The consortium platform is used interchangeably with innovation platform at a point in the study. The study focuses on Paddy Farmers in Sengerema District in Mwanza Region of Tanzania.

## **2.2 Theoretical Framework**

### **Review of Theory**

According to **Market Information Service Theory**, as explained by Andrew W Shepherd (FAO, 1997), Agri-food systems are undergoing rapid transformation. Increasing concentration in processing, trading, marketing and retailing is being observed in all regions of the world and in all segments of production-distribution chains. The traditional way in which food is produced, without farmers having a clear idea in advance of when, to whom and at what price they are going to sell their crops, is being replaced by practices more akin to manufacturing processes, with far greater coordination between farmers, processors, retailers and others in the supply chain. Farmers increasingly produce to meet the requirements of buyers rather than relying on markets to absorb what they produce. Market information can assist farmers in negotiations with traders. In the longer term it should also provide farmers with the opportunity to plan and diversify their production in line with market demand and to schedule deliveries to the market at times when returns are most rewarding. Finally, market information can be a valuable input into Early Warning systems by highlighting food shortages which are reflected by higher prices and can also assist government planners in developing an understanding of the ways markets work.

However, this study place more emphasis on the producers and the buyers with regards to market information, this study do not sufficiently consider other players like the input suppliers, financial institutions, extension services and so on who are major stakeholders in the value chain. As important as Market Information is in enabling producers prepare ahead and negotiate with traders from a position of greater strength, this is not sufficient to make a success out of the process without the inclusion of other stakeholders. It is what is produced that will be taken to market, market information only focus on the marketing, meanwhile, access to market is an entire process which begin with production, if production fails it will definitely affect marketing no matter the level of market information available, that is why neglecting other stakeholders in the value chain who could make the entire process a success as the case is with this theory cannot be a better approach regarding market linkage.

## **Review of Methodology**

### **Market Linkage Approach and Innovation Platforms**

According to Klerkx, L. *et al*, (2012), Innovation platforms are ways to bring together different stakeholders to identify solutions to common problems or to achieve common goals. They ensure that different interests are taken into account, and various groups contribute to finding solutions. It is used by the private sector to gather information and improve networking among key stakeholders in a particular economic sector.

Lundy M.*et al.*, (2012) put it this way; ‘an innovation platform is a group of individuals (who often represent organizations) with different backgrounds and interests: farmers, agricultural input suppliers, traders, food processors, researchers, government officials etc’’. The members come together to develop a common vision and find ways to achieve their goals. They may design and implement activities as a group or coordinate activities by individual members. Individual members can also innovate alone, spurred by the coordinated group activities. Innovation platforms may tackle challenges and opportunities at various levels: in a village or community, in a district or nationwide, or throughout a value chain or economic sector. They may work at a single level, or across several levels.

According to Schutet *al.*,(2011), they considered innovation platform from research perspective, to them, innovation platforms are advocated as a promising way to find solutions to complex problems, such as those in agriculture and natural resource management. As social, economic and environmental problems grow ever more complex, they believe researchers need to engage more actively with stakeholders such as farmers, development practitioners and policymakers to explore, design and implement solutions.

Going into specific about innovation platforms for agricultural value chain development, Calowet *al.* (2013) posited that markets and value chains approach has recently become fashionable in agricultural development interventions, so too have innovation platforms.

## **Markets and value chains in agricultural development**

Traditional approaches to agricultural development tend to emphasize food security—helping farmers to grow enough to feed themselves and their families, and perhaps a surplus to sell, but more recently, concern with markets has become prominent. Even subsistence farmers need cash, goes the reasoning; they need to be able to grow things they can sell. And if they have a market for their produce, they have an incentive to grow more to earn more. This ushers in a virtuous cycle of higher yields and production, greater incomes, higher living standards, and more investment in production. But linking farmers with markets is not easy. The physical infrastructure may need to be built or improved: storage and processing facilities, marketplaces, roads, electricity, communication facilities Calow *et al.* (2013).

Farmers may need to get organized in groups so they can sell in bulk and negotiate better prices. They need links with potential buyers, information about prices and standards, and sources of credit. They may face resistance from traders who fear a loss of power and profits. Many government programs and projects aim to overcome these difficulties. These authors, unlike Andrew W Shepherd (2007) above who looked at just the relationship between farmers and buyers, they consider the whole value chain from producers to consumers. They consider each step in the chain as well as all the various chain supporters. They also consider the chain context: regulations, overall economy etc. Just that all these are about farmers generally while this study is looking at paddy farmers in particular.

## **Innovation platforms and value chains**

Innovation platforms offer a practical way to deal with the complex issues and multiple stakeholders involved in value chains. They bring together a range of stakeholders: farmers, traders, processors, input suppliers, credit suppliers, market information providers, insurance services, policymakers, extension officers and researchers. Together, these stakeholders design solutions to problems along the value chain. Innovation platforms for value chains are unusual in that many of their members come from the private sector. Nederlof and Pyburn (2012) believe their motivations are always commercial. They want to see profits. If the platform fails to deliver these, they will lose interest. On the other hand, if these partnerships are rewarding, they should last longer than the duration of the project. Another unusual feature is that platform members may compete with each other. Farmers compete with each other to sell their produce; traders vie with their peers to buy and sell; processors compete to buy inputs and sell their outputs. It is also true between different stages in the chain: farmers want to sell at as high a price as possible, bypassing small-scale traders if they can. Traders, meanwhile, want to keep this business for themselves, and to buy for a low price. Peers at each stage may discover they can club together to charge higher prices or demand lower prices from suppliers.

This study is somewhat tilted towards the value chain where members of such platforms thus do not naturally see the benefits of cooperating and sharing information, making the task of the platform harder. When this happens, it is believed that an open agenda and skilful facilitation are needed. The facilitator must be neutral and help members realize that a more efficient value chain benefits all by providing greater volumes, better standards, higher efficiency, lower costs and less waste.

### **How members of platform benefit**

According to Pali and Swaans (2013), farmers can benefit from such platforms by learning about market demand and requirements, changing what they produce and how they produce it. They can organize into groups to bulk their produce and negotiate better prices. They learn marketing skills and the importance of trust and long-term trading relationships. They may get services such as credit and improved production technologies via the platform. Production systems become more profitable. Traders and processors can benefit by getting a larger, more reliable, better quality supply of inputs. They may welcome farmers getting organized as this reduces their transaction costs. Service providers such as input suppliers, credit organizations and business services gain clients for their products and services.

### **Literature Review**

Looking at it from the position of rural young farmers, a report by MIJARC/IFAD/FAO, (2012), rather submitted that sustainable access to markets is required to guarantee smallholders an increase in income to lift them out of poverty. Since rural young farmers are the future of the agricultural sector, their access to markets is vital for boosting productivity, increasing incomes and reducing poverty and hunger for the years to come. Nevertheless, young people face a number of challenges while trying to access markets, even beyond the constraints faced by smallholder farmers in general, particularly in developing countries.

The study also indicates that access to information and education is poorer in rural than in urban areas. ICT literacy is also lower, in particular among poor young women. In the context of booming globalization, the demand for higher value and processed foods, combined with the rise of supermarkets around the world, has implications for the global food marketing system, as it alters procurement systems and introduces new quality and safety standards (MIJARC/IFAD/FAO, 2012).

Due to increased rural-urban linkages and faster communication, as well as fewer trade barriers, markets are increasingly open and homogenized towards international standards and, as a consequence, more and more competitive. The new procurement systems tend to require large, steady supplies (destined for supermarkets) and favour larger farmers over small-scale producers, particularly in developing countries. These young smallholder farmers are often obliged to maintain compliance with quality standards, cover the costs of certification and invest in technology and infrastructure, as well as in a more skilled labour force. Small young agricultural producers in developing countries can, in theory, sell their products to various kinds of markets: local (rural), emerging urban, regional and international. Improved access to

national, regional and international markets is important to allow them to sell more produce at higher prices. (MIJARC/IFAD/FAO, 2012)

The above study is limited to young farmers and women with regards to their poor market access. Meanwhile, the focus of this study is the smallholder paddy farmers in general. Remarkably, all of these studies have not specifically touched on what access to market means to a paddy farmers or how to link paddy farmers who have their peculiar challenge to market. Smallholder producers who are into paddy production require specific market linkage approach. This study tend to fill that gap by investigating how effective the lead firm market linkage approach (consortium platform) has been able to enhance smallholder paddy farmers' access to market, particularly in Sengerema district of Lake zone in Tanzania where paddy farming is most popular.

### **Market Linkage Approach**

FAIDA (2000) sees Market Linkage as a good way of promoting and strengthening farmer groups. Farmer groups experience the simple principle of economies of scale when they jointly organize input distribution, extension and output collection. This generally results in a strong basis to build business-oriented farmer groups. With this basis firmly established, the groups can be further strengthened in areas such as savings and credit, collection of marketing information, reviewing new business opportunities etc.

Additionally, groups could work together for specific purposes such as lobbying policy makers; acquire donor funding, joint infrastructural investments, etc.

### **A study of FAIDA Market Linkage Approach**

FAIDA is a microenterprise development project operating in the Northern Zone of Tanzania. The Netherlands Development Organization (.SNV.) executes the project. FAIDA assists providers of Business Development Services (BDS), develops mechanisms for effective financial assistance, and facilitates Market Linkages between smallholders and agricultural companies. FAIDA is the Swahili term for profit or added value. According to the FAIDA (2000), the FAIDA Market Linkage approach was established to facilitate sustainable linkages between smallholders and agricultural companies. State interference in economic life diminished drastically in Tanzania after the implementation of structural adjustment and market liberalization policies. Farmers were confronted with a sudden collapse of government services such as input supply, credit provision and purchase of output. However, the process also created new economic opportunities such as growing alternative, more remunerative cash crops. Unfortunately, it appeared difficult to materialize these opportunities due to factors such as: lack of information on concrete enterprise opportunities; underdeveloped and non-competitive output markets; bad performance of input and financial markets in rural areas; and no linkages with potential buyers.

Likewise, agricultural companies failed to capture the new commercial opportunities, among others, due to: lack of relevant business information; unsure and irregular supply of raw materials; difficulties to access finance; and no linkages with farmers. Overseeing the situation, FAIDA started to experiment with facilitating contacts between smallholders and agricultural companies, thus, bringing together actors at the supply and demand side in an attempt to catalyze a specific enterprise development.

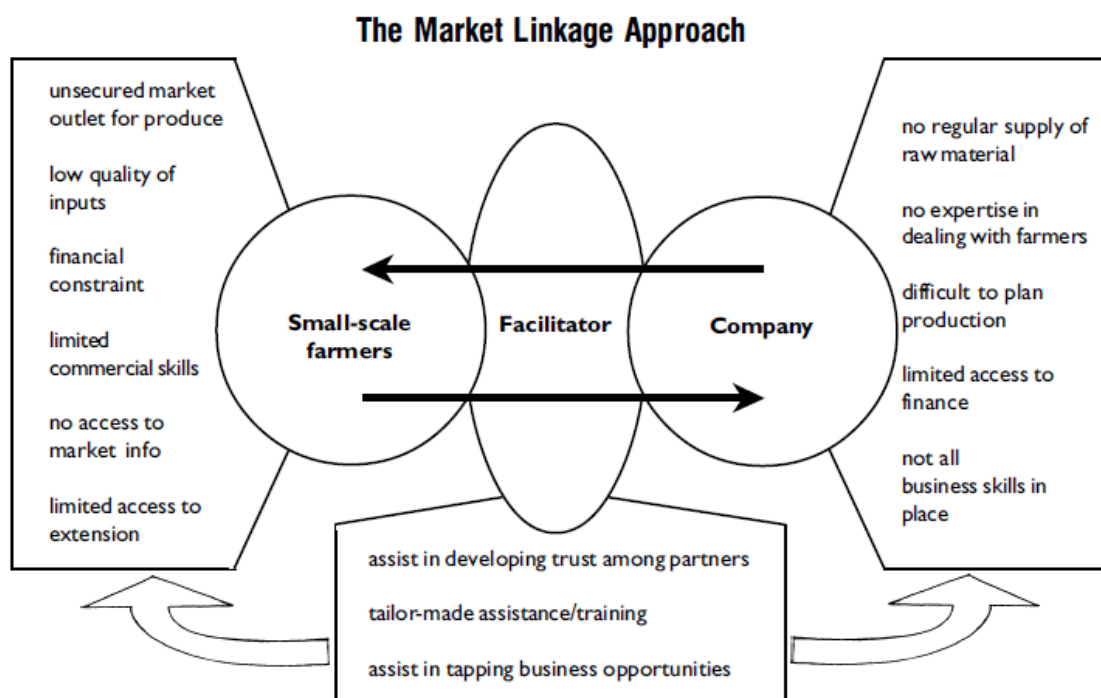


Figure 1: FAIDA Market Linkage Model. (FAIDA 2000)

### FAIDA Market Linkage

The Market Linkage approach is a tool to bring together small-scale farmers (supply side) and agricultural companies (demand side) under the objective of developing a specific enterprise. In this approach, a facilitator acts as a catalyst or broker and focus on building trust between both parties. The facilitator: introduces the parties to each other; assists in obtaining relevant information and providing tailor-made training; and is instrumental in developing the enterprise as a whole. The leading concept is that farmers and companies develop sustainable commercial enterprises that are mutual beneficial. The facilitator merely assists in the start-up and initial development of this process and is, therefore, only temporarily involved. In a typical FAIDA Market Linkage scheme, farmers receive inputs (i.e. seeds, fertilizers, etc.), extension services and a small loan from the company while being assured they can sell the output to this company, FAIDA 2000.

The farmers are assisted by the facilitator to organize groups with fellow farmers operating in the same scheme. In order to minimize transaction costs, the distribution of inputs, delivery of extension services and the collection of output is organized through these farmer groups. Normally farmers open a group savings account, which functions as a collateral for the inputs and loans provided by the company.

The company is assured of its raw material supply and can plan its business accordingly. Typically, the company is not merely a trading firm but involved in processing or other value-added activities. The facilitator can assist the company to access additional credit sources to be able to finance the scheme. The facilitator keeps a close eye that the linkage is a fair deal for both parties, and leads to a clear win-win situation.

As good as the FAIDA market linkage approach sounds, it cannot be said to be a total success, otherwise, these would have been adopted in all value chain in Tanzania, including paddy value chain and there would not be any need for the consortium approach.

### **Producer Empowerment Market Linkage (PEML)**

According to a project completion report compiled by **James Wembe** of Agri-business Development Company Limited, the Government of the United Republic of Tanzania in collaboration with the International Fund for Agriculture Development (IFAD) and the African Development Bank (AfDB), is implementing the Marketing Infrastructure, Value Addition and Rural Finance Support Programme (MIVARF), which is a seven year Programme (2011-2017).

The MIVARF Programme according to report is upscaling the best practices and the lessons learnt are drawn from Agricultural Marketing Systems Development Programme (AMSDP) and Rural Finance Services Programme (RFSP). The Programme focuses on improving access to financial and marketing services for the rural economically active poor while emphasizing on financial and commercial viability and sustainability in the support of the beneficiaries. The overall goal of the Programme is to reduce rural poverty and accelerate economic growth on a sustainable basis in line with the framework of the national development strategies which include MKUKUTA/MKUZA, ASDP, ATI, KILIMO KWANZA and SAGCOT).

The Program objective is to enhance income and food security of the rural poor targeted groups through access to broad range of financial services, coupled with the necessary capacity building and linkages to markets. In achieving MIVARF Goal, the program tasked Agribusiness Development Company limited to implement Producer Empowerment Market Linkage (PEML) component in Katunguru, Kishinda, Nyanzenda, Nyakasungwa and Nyakaliro wards of Sengerema district with focus on reducing rural poverty (income poverty and food poverty) MIVARF, 2017.

The benefits expected from MIVARF Programme include improved market opportunities and increased value addition for the targeted commodities, resulting in increased income of the participating smallholder



households. These benefits are expected to be achieved by: Improved access to services, markets and information; reduced transaction costs; increased output and productivity; Enhanced food safety; reduced post-harvest losses; improved product quality and increased producer (farm gate) prices; and improved economies of scale.

According to report, the MIVARF programme was not really productive at the initial stage as a result of the fact that it was hijack by civil servant and the real actors were not adequately represented, this led to a review of the platform to a more inclusive one that brings together the main stakeholder.

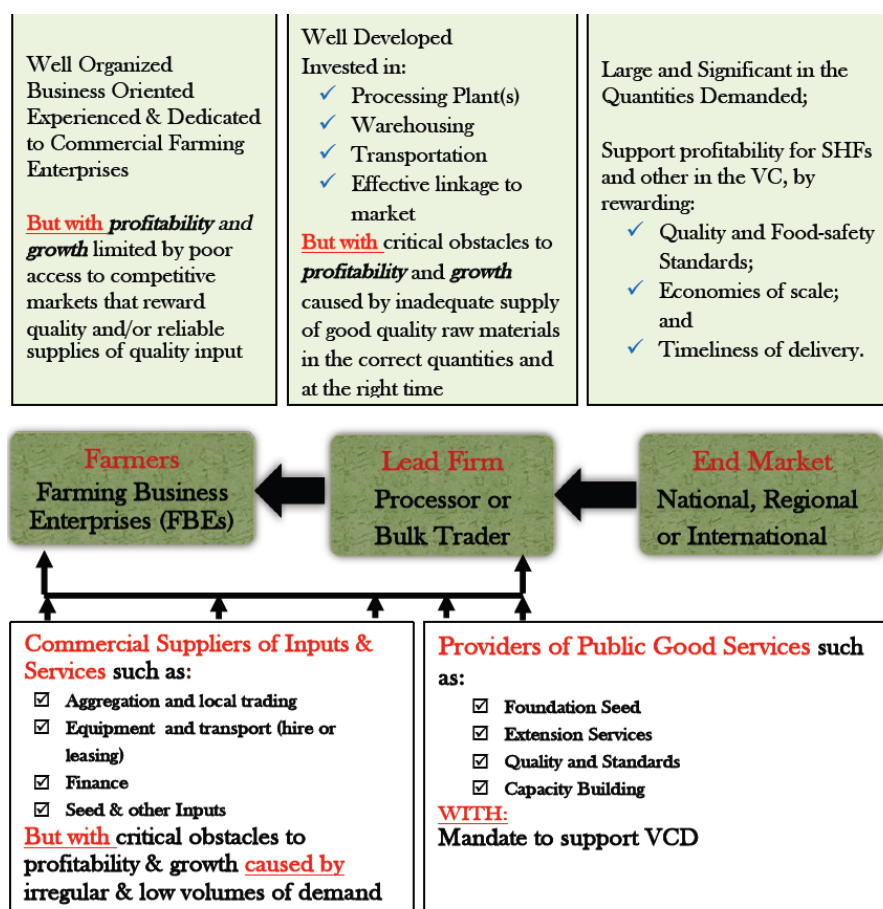


Figure 2:: The consortium model, MIVARF (2017)

This project could be rated partly effective in the sense that it meets all the objectives, though some issues were not fully accomplished due to unavoidable circumstances like change of weather and lack of agronomic skills for some few farmers which were beyond the PEML set out strategy to engage with production related technical issues.

On the assessment of Sustainability, MIVARF 2017, defines Sustainability as the ability of a project/programme to maintain its services and benefits during and after its projected life time, focusing on aspects like the continuation of project activities during the post financing period; and the durability of

changes and impact brought about by the project, based on this description, the sustainability of the programme if MIVARF is out today is not certain.

### **2.3 Review of Empirical Studies Paddy Production in Sengerema District.**

Efforts are being made to promote paddy production in Mwanza region, Sengerema district. Rice being a staple food and cash crop in this study area. Paddy growers produce four times the amount required for self-consumption and maintain their household economy by selling the rudimentary surplus. (DALDO, 2009)

Farmers in Sengerema were producing paddy/rice, but every season they struggle to access the needed farm inputs (improved seeds, quality fertilizers and crop protection products) at the right time, in the right quantity and quality and for a reasonable price. They often do not have the needed cash or credit to pay for the inputs. After harvest, the farmers struggle to sell paddy. Often, they have no choice but to sell their paddy at the local market (middle man) for a low price. They were not organized (institutional arrangement) and do not have the capacity (skills) either to negotiate for better prices, or to store their paddy until prices increase. Even the basic options needed to add value were beyond their reach. MIVARF Project completion report (2017).

#### **Reviewing the impact of MIVARF program in Sengerema District**

In promoting paddy productivity, Tanzania has implemented the East African Agricultural Productivity Programme (EAAPP) that was seeking to improve production of paddy in Kahama, Bukombe, Magu, Sengerema, Mvomero, Mbarali and Kyela districts. The program was complementing the Agriculture Sector Development Program (ASDP) activities by promoting the production of rice whereby the country was designated as a Regional Rice Centre of Excellence (RRCoE) for the East Africa community. The program implementation approaches was to alleviate some of the constraints faced in paddy rice value chain through involvement of different stakeholders in the development of the paddy rice sector.

The reported achieved result was that rice stakeholders' innovation platform formed in Sengerema district and its members were District Executive Director (Chairperson), District Agriculture, Irrigation and Cooperative (Secretary), agro dealers' and farmers representatives. Unfortunately the formed innovation platform turned out to be a white elephant (non-functional). The reasons behind non-functional was attributed to platform formation was a top down approach; Value chain stakeholders were not capacitated to understand that the organ was there to serve their interests; setup of the innovation platform was in such a way that more than 60% of the members were civil servants; Farmers as an important node in the chain were poorly represented let alone being marginalized by the rest of the platform members; there were no terms of reference attached to the platform, neither were there specified roles against which the

performance would be evaluated; and innovation platform was lacking institutional arrangement which would clearly show the line of command and members responsibility(MIVARF, 2017).

Therefore, since formation of rice stakeholders' platform in the year 2011 to 2016, there was no any meeting conducted and reported activity. The service provider recommends that the rice stakeholders' platform formed in the year 2011 needs to be strengthened and create a solution of linking farmers to input, output and financial markets in Sengerema district.

### **Paddy Marketing in Sengerema District**

The paddy/rice marketing activity was a challenging task among farmers in Sengerema and lake zone regions in whole. The marketing was starting from the time of land preparation, planting, weeding, fertilizing, birding and harvesting. It was dominated by middle man who was walking around the households and distributing cash to farmers to facilitate farming activities. It was reported that TZS 20,000.00 was paid in advance for one sack of paddy that was measured through the use of modified bucket. One sack was estimate to be equivalent to 6 bucket that was over 100 kilogram gross weights. In connection with that, collective marketing was not practiced in Sengerema district, except in Katunguru ward and Sengerema town whereby women though non-formal group setting operate individually in rice marketing. Similarly, in all the five wards of Kishinda, Katunguru, Nyanzenda, Nyakasungwa, Nyakaliro and Sengerema in whole, the Warehouse Receipt System (WRS) for rice was not practiced before Mivarf interventions.

During baseline survey, it was reported that over 80% of the farmers store harvest at home and selling is mostly done immediately during and few days after harvesting. In connection with that, less than 30% sell paddy produce in later months after harvesting. The price of the paddy at harvest time was ranging from TZS 21,000.00 to TZS 50,000.00 and some months later after harvesting goes up to TZS 80,000.00. The production cost for one acre was estimated at TZS 430,000.00 and average production in one acre is 12 bags, of which one bag is sold at TZS 30,000.00 during harvesting. Ideally, from these gross computations, the farmers get loss of TZS 70,000.00. The reason for price increases was reported to be decrease of supply, increases of demand and paddy quality. The paddy price in Sengerema was determined by buyers while quality of produce and cost of production was not used in paddy price settings. The buyers predominantly determine the price of rice and pay different prices for the same produce depending on the negotiation strength of the seller. Over 90% of buyers were local buyers and 35% out of that were middle men engaged in informal contract. In connection with that, value adding was not a priority activity for paddy rice farmers and milled rice was full of stones. The sources of market information were farmer to farmer, middlemen and individual traders. The major constraints to paddy marketing were identified as price fluctuations, poor infrastructure, unreliable unit of measure and inadequate rice milling, adverse climate and poor skills in rice business. As a solution to major constraints of paddy marketing, the service

provider promoted the use of collective marketing for paddy in five wards of Kishinda, Katunguru, Nyanzenda, Nyakaliro, and Nyakasungwa in Sengerema district. The paddy collective marketing was promoted and implemented since March 2016 to date in all the MIVARF project area and has shown promising sustainability. Total of 240 members (118 male and 122 female) participated in collective marketing to store 1,631 bags of paddy (122,325 tons) equivalent to TZS 114, 170,000.00 (one hundred fourteen million, one seventy thousand only). MIVARF 2017.

**Service Provider initiatives (actions):**

- **Farmers were organised into groups:** The Service Provider through Producers Empowerment and Market Linkage (PEML), mobilized individual farmers into forming producer groups. That resulted into the formation of 43 producer groups with a total number of 1,376 members (747 Males and 629 female). For the groups to be functional, the farmers groups developed, adopted constitutions and registered. Then the producers groups were sensitized on collective marketing through simplified Warehouse Receipt System. When collective marketing was introduced to farmers the eyebrows of the doubting Thomases among the farmers rose and fell. Today in the MIVARF coverage area the collective marketing is moving.
- **Groups were empowered:** farmer to farmer extension approach was designed to groups of farmers' representatives from five wards of Sengerema visited Nyambogo (Geita town), Mbarali, Msalala and Magugu SACCOS (Babati district). During the exchange visit, the two groups were formed for proper interaction of the participants. The first groups were farmers from (Sengerema) interacting hosting farmers and staffs interacting hosting staffs. All the five wards participated in group empowerment within and outside Sengerema district.
- **Participatory planning for collective marketing:** at the end of planned exchange visit activity, the farmers' representative from each ward prepared activity report. The collective marketing implementation plan was part of the report. The reports prepared by ward representative were presented in an informal organised meeting with all exchange visit participants as a means of improving action plan for implementation. Then the groups' apex leader under guidance of ward extension officer was required to give collective marketing time table that was to be followed by key promoter of collective marketing at ward level. The collective marketing action plan was prepared and implemented by all five wards implementing MIVARF interventions in Sengerema district.
- **Formation of apex leaders at ward level:** as a means of simplified implementation of PEML activities by service providers, producers groups were advised to form a coordination apex at ward level. The apex leaders at ward levels were responsible for assisting in mobilizing groups at village levels and used as an entry point of new innovation and technology. Apex leaders were selected in the organised ward groups meeting. In the five of MIVARF interventions, the Apex leaders are working hand in hand with service provider and community extension staffs. The apex leaders were responsible in sensitizing

producers groups to contribute for cash for hiring storage facility that was ranging between TZS100,000.00 and TZS 120,000.00 per ward. Similarly, apex leaders coordinated the preparation of constitutions that was used during 2016 collective marketing implementation.

- **Linking producers with buyers:** the collective marketing apex leaders were linked to potential buyer of paddy from Kahama who is known with nike name as *Hamisimazao*. Because of groups skills and bargaining power gained during implementation of collective marketing and innovation platform in Sengerema. The situation of price setting has changed from buyers to collective marketing groups. The buyer moved so far from Kahama district to Sengerema district, but the producers groups disagree with the offers price. The want price to be TZS 100,000.00 per bag of 75 kilogram. The buyer was capable of paying for the whole consignment that was stored through collecting marketing in Sengerema district.

- **The interesting fact after collective marketing (Results):**

The collective marketing implemented in Sengerema has righteously earned a status as an appropriate marketing strategy to small scale rice producers from the yoke of exploitation by rice vendors including middle men and middle women. Farmers in Sengerema used to produce and sell paddy rice to vendors at a farm gate price ranging from TSZ 20,000 to 35,000 per 75 kilogram bag of paddy during harvest. The average cost of production in one acre was estimated at TZS 430,000.00. This includes costing of family labour while average production in one acre is 12 bags, of which one bag is sold at TZS 30,000.00 during harvesting. Ideally, from these gross computations, the farmers were loss of TZS 70,000.00 and don't even break-even which is TZS 430,000.00. But in farmers' perception, they don't realize if they are making a loss since they don't factor in family labor in all activities done by the family and cost only farm inputs such as seeds and fertilizers. But through collective marketing the selling has reached TZS 80,000.00 per bag of 75 kilogram of paddy rice. Therefore, for production of 12 bags per acre, the total revenue is estimated at TZS 960,000.00 leading to the profit of TZS 530,000.00 for the producers participating in paddy collective marketing as marketing approach for paddy in five wards of Sengerema district.

**The collect marketing impacts:**

In regard to impact on knowledge, attitude, skills, and practice, the collective marketing in Sengerema warehouses, farmers through ward apex association have managed to have improved bargaining powers for paddy price that suits their produce. With proper use of hired warehouses storage facilities and equipment supplied through MIVARF program. The paddy rice groups have managed to know the exact weights of their produce by using credible electronic weighing scales before selling that was not before MIVARF intervention. Because of collective marketing, the price of paddy has increased from TZS500.00 per kilogram (during harvest time) to TZS 1,093.00 per kilogram (after collective marketing in MIVARF areas). The same bag of rice which at the time of harvesting was selling at TSZ 35,000 is now fetching a TZS 90,000.00. Similarly, in regard to policy issue, the Ministry of Agriculture Livestock and fisheries

during the field visit made on the march 2017 for food security survey, promised to support collective marketing initiatives in Sengerema through construction of warehouse in Kishinda ward because farmers were found organised and practicing simplified warehouse receipt system through local arrangement (hired store).

Wembe and Ogenga (2017). The Sengerema, Msalala, Chato and Magu Districts have been operating a market oriented, MIVARF supported the program through Service Providers (SPs) to streamline the Paddy/Rice Value Chain. One of the approaches used in linking farmers to the market is to establish an innovation platform (Consortium) which brings together potential stakeholders of the rice within and outside the districts. The facilitator, partner (SPs) was needed in order to bring together, without bias and coordinate various paddy/rice value chain stakeholders. The consortium is a space for learning and change, involving individuals and groups with different background, who come together to diagnose problems, identify opportunities and find ways to achieve setup value chain goals. The stakeholders also design / implement activities either as platform or coordinate by individuals.

The consortium model offers a practical way to deal with the complex issues and multiple stakeholders involved in value chains include off-taker (buyers/lead firm), farmers, input suppliers, financial institution, market information providers, insurance services, policy makers, change agents and researchers. The above stakeholders design solutions to problems along the paddy/rice value chain and the process of managing and running the platforms is flexible, adaptive and dynamic and manages dialogue and stimulates collective problem analysis by multiple stakeholders with the goal of overcoming challenges through making use of opportunities.

The main goal of the consortium is to make the whole rice enterprise profitable to the stakeholders and ultimately improving stakeholders' livelihood. In achieving this goal, stakeholders meet on adhoc and regular basis to discuss the challenges as well as opportunities that are within the enterprise (rice value chain). The stakeholders seek solutions to the challenges through a synergistic approach where every member on the platform sees the advantage. To enhance strengthening and sustainable market linkages through the Consortium model.

## **CHAPTER THREE: METHODOLOGY**

### **3.0 Introduction**

The study on the effectiveness of paddy consortia platform in enhancing smallholder producers' access to market in Sengerema District, Mwanza Region in Lake Zone of Tanzania, was carried out between March and May, 2018. It involved field visits to smallholder farmers groups in the district. Interviews were held with key informants and stakeholders in the project. The study review and draw from works of many authors on consortium approach and access to market.

### **3.1 Study Area**

Tanzania is a country in East Africa bordered by Kenya and Uganda to the North: Rwanda, Burundi, and Democratic Republic of Congo to the West: Zambia, Malawi and Mozambique to the South; and the Indian Ocean to the East. The United Republic of Tanzania came into being in 1964 following the union of the Republic of Tanganyika (formed in 1961) and Zanzibar. Its official languages are Kiswahili and English. Dodoma is the national capital of Tanzania, and the Tanzania Shilling (TZS) is the official currency. It is the 13<sup>th</sup> largest country in Africa and is situated in East-Africa (National Bureau of Statistics, 2012).

The Tanzania economy depends heavily on Agriculture, which accounts for more than a quarter of GDP, provides 85% of exports and employs about 80% of the work force. (Karfakis and Rapsomanikis, 2008). Sengerema District is one of the 8 districts of Mwanza Region in Lake zone in Tanzania. The district is located south West of Mwanza City Council. The District is 35 kilometers from Mwanza City and has an area of 8,817 square kilometers. The 3,335 square kilometers is dry while 5,482 square kilometer is covered by water (Lake Victoria).



Figure 3 Map of Sengerema District (Wikipedia)

The district lies between latitudes 20 to 30 south of equator and longitude 310 and 450 east of Greenwich. The district borders with Ukerewe District to the North, Ilemela and Nyamagana Districts to the East, Misungwi District to the South and Geita District to the West. According to the national census of 2012, the district had a total population of 663,034 people out of which 330,018 (49.98%) males and 333,016 (50.2%) females<sup>1</sup> at a growth rate of 3.6% per year. Less than 15 years old were reported to be 293,061 people (44.2%) while working age population (15-64 years) were 344,778 people (52% of the population). Similarly, above 65 years were reported to be 25,195 (3.8%) of the population. The major people's occupations are agriculture, livestock keeping and fishing. However, the big share of district's income (about 80%) is contributed by the agricultural sector which employs more than 90% of the total residents of the district.

Sengerema district has a bimodal rainfall pattern which consists of a short and long rain. The short rains start in October and reach the peak in December and ends in January. The long rain starts in February and ends in May. The annual rainfall ranges from 800mm – 1200mm. The district mean temperature is between 21<sup>0</sup>C - 23<sup>0</sup>C, with August being the hottest month. Administration System-Sengerema district is divided into 5 divisions, 34 Wards, 126 registered villages and 766 sub-villages. The district has 34 Councilor's and 2 members of Parliament for Sengerema and Buchosa Constituencies. In order to ensure participation of the people in development, the District was divided to Sengerema council and Buchosa council. MIVARF program which started in November 2015 focusing on rice sub sector targeted 5 Wards which includes; Kishinda (12,342 people), Katunguru (20,284 people), Nyanzenda (20,654 people), Nyakasungwa (20,817 people), and Nyakalilo (33,830 people) with total of 107,927 people (53,417 male &



54,510Female)4 that represent 16.28 % of the total population of the Sengerema district.The program operates in 14 villages that are potential in paddy production out of 21 villages in five wards.



Plate 1. Farmers in Katungwa Ward Plate 2. Farmers in Nyakaliro Ward



Plate 3. Farmers in Nyakasungwa Ward Plate 4. Farmers in Kishinda Ward



Plate 5. KII with Mr Samuel Laizer (Financial Provider) Plate 6. FGD with head of AMCOS, Extension Officers, etc.

### 3.2 Nature and Sources of Data

#### Data collection procedure/instrument

Both quantitative and qualitative data were gathered, using primary and secondary data sources. Factual information on effectiveness of Paddy Consortia platform in enhancing smallholder farmers access to market was gathered through the use of structured questionnaire, (close and open-ended). Data gathered through direct observation on the field.

The secondary data were collected from journals, newsletters, baseline survey, published research works and books. Key Informant Interview (KII), Focused Group Discussion (FGD) was also used to gather qualitative data from the operator of the consortia platform and other stakeholders. Plate of projects and respondents were also taken using digital camera, while voice recorder device was used to tape the interviews with respondents.



Plate 7. KII with Mr. James Wembe & colleague (Service provider) Plate 8. KII with Mr. Muhoni Leonard (Agri-business Expert)

### **3.3 Method of Data Collection**

Data collected for the study were generated with the assistance of six 6 field enumerators recruited and trained in a one day pre-field training exercise. The enumerators were drawn from community youths through the assistance of the District Vocal Person who helped to identify those with practical knowledge of agriculture, paddy production and socio-economic and cultural characteristics of the study area.

In all, 4 wards (Katungwa, Nyakatungwa, Kishinda and Nyakaliro) and 12 villages (Kutunyuru, Kasomeko, Nyankasungwa, Majengo, Igwanzozu, Kishinda, Tunyenye, Mami, Isebya, Kasela, Itumbili, Nyakaliro) were reached through motorcycle. Respondents were grouped into 6 groups, (number of enumerators), the egghead among them were identified and were asked to lead each group to interpret to the respondents in kswahili as the enumerators explained to each group.

#### **Population of the study**

The population of the study comprise of all the 1,376 smallholder farmers involved in the paddy consortia platform in Sengerema District, Mwanza Region of Tanzania, 747 of them are men while 629 of them are women. There are 49 famers groups under this platform with average of 30 members in each group

#### **Sampling procedure**

The study sampling procedure employed was a multistage approach sampling method. Purposive sampling method was used to choose all paddy consortia platform in Sengerema district. Purposive selection of Lake zone out of 6 divisions of Tanzania (Central, Coastal, Lake, Northern, Southern highlands and Zanzibar), Mwanza Region out of the 6 regions in lake zone and Sengerema District out of the 8 districts in Mwanza Region. Purposive selection of 4 out of 5 wards in Sengerema District, then, random selection of 12 out of 14 villages that are potential in paddy production of 21 the villages in the five wards.

Random selection of 30 out of the 49 farmers groups affiliated to the consortium platform in Sengerema District. An average of 11 respondents was randomly selected to represent each of the 30 groups. Simple Random Sampling technique was used to select of 344 smallholder paddy farmers out of 1,376 farmers involved in the consortium platform. Convenience sampling was also used to select 16 other stakeholders in the value chain, who includes; heads of farmers groups, executive members of AMCOS, head of innovation platforms, service providers, head of a consortium platform, extension service officers, Branch Manager of Micro Finance Bank.

#### **Sample size determination**

The sample size of 344 was arrived at by using 25% of the total population which is 1,376. This 25% calculation was based on the logic that out of a total of 49 farmers groups that makes up the population (1,376), 30 farmers group were selected and average of 11 members were drawn from each of the selected 30 farmers group giving a total 344 respondents. 344 divided by 30 giving us 11, the number picked from each group, these are the respondents for the questionnaire.

Another 16 respondents selected for Focus Group Discussion, FGD and Key Informant interview, KII, these includes; the General Manager of Hamisi Mazao, a consortia platform, Sengerema Branch Manager of Vision Fund Tanzania MFB, Mr Samuel Laizer, (financial provider), Mr. Fredrick E. Ogenga, Managing Partner, SEIDA, (service provider), Mr. James Wembe, (service provider), Mr Samuel Muganga (MAZAO Group), head of AMCOS, Heads of Farmers Groups, Extension Officers, etc.

### **Validity**

To ensure the validity and reliability of the instruments, a pre test was done in another area other than the study area to assess the ability of the respondents to interpret and administer the questionnaire. While the instruments were also submitted to both local and on-sight supervisor for necessary correction.

### **3.4 Analytical Methods/Techniques**

Data collected from the field were coded, collated, verified, and entered into data sheet. The already coded data were analyzed using Statistical Package for Social Sciences (SPSS statistics IBM 20) and MS Excel spreadsheet. Both qualitative and quantitative data were generated for the study and presented through combination of cross tabulation, graphs, and pictures. Descriptive statistics were used (frequencies, percentage, ratio, means, and standard deviation). Inferential statistics (t-test) were equally used to ascertain the distribution of variables in the study to determine the general effectiveness of the consortium approach in the study areas.

Data on Objective 2 and 3 was generated using questionnaire, KII, FGD guides and analyzed using descriptive statistics (percentage, frequencies, mean and standard deviation) and inferential statistics (t-test and p-value).

Data on Objective 2 and 3 were generated using questionnaire, KII, FGD guides and analyzed using descriptive statistics (percentage, frequencies, mean and standard deviation) and inferential statistics (t-test and p-value).

Derivative of Objective 4 and 5 are drawn from questionnaire, KII, FGD guides, observation and documentation review and analyzed using descriptive statistics and financial model.



The methodology employed in this study is **Experimental and Control variable**, so as to establish a causal relationship between intervention of the consortium platform and outcomes on productivity and income of smallholder farmers before and after their membership of the consortium platform. Randomised control trials estimate program effectiveness by comparing participant outcomes **before** and **after** their involvement in the consortia platform. The sampled smallholder paddy farmers were randomly selected as experiment and control group and the outcome of the consortia platform of their productivity and income.

### **Measurement of variables**

There are three major variables to measure the effectiveness of the paddy consortia platform in sengerema district are;

1. The level of sales (change in unit sales) by the farmers before and after their involvement in the platform
2. The profitability (unit margin) of the farmers before and after their involvement in the platform
3. Benefits/support derived by the farmers before and after their involvement in the platform

### **Experimental and Randomized Control Variable**

The study employed randomization in order to demonstrate a causal relationship between intervention of consortium approach and outcomes on production and income of smallholder farmers **before and after** involvement in the paddy consortium platform in Sengerema district. Randomized control trials estimate program effectiveness by comparing participant outcomes **before** and **after** the intervention of consortium approach. The sampled smallholder paddy farmers were randomly selected as experiment and control group and the outcome of consortium approach on their production and income **before** and **after** were assessed to ascertain causal relationship between intervention of consortium approach and outcomes toward determining effectiveness of consortium approach.

Comparison is made on outcome of the farming business of the farmers before and after joining the consortium platform. The randomized control variable (RCV) enhanced precision in estimates of effects (reliability) of the study and accounts for selection bias.

### **3.5 Measurement of Variables and a *priori* Expectations**

The study measured input, output, outcome and impact indicators of independent and dependent variables:

**Input Indicators:** The resources, efforts required in the production of paddy were measured. Measurement was made of finance, input, market information, training, extension services, also measured was the level of satisfaction with those support services in terms of timeliness, frequency, and cost effectiveness. Other necessary input indicators of production process required to bring about paddy production in the consortium. The farmland cultivated is measured in per acre by the farmer in the consortium.

**Output Indicators:** The study measured deliverables of the production process. The amount of paddy produced by farmers was measured using standard scaling. The farmers measured their outputs using bags of 120 kilograms. Conversion of the 120 kilograms scale was made to reflect the measurement in metric tonnes.

**Outcome Indicators:** The effects of the outputs on the beneficiaries of the consortium were measured and entail improvement in access to inputs, credit and ultimately market.

**Impacts Indicators** involves changes resulting from project outcomes and connotes the long term generalized effects (direct and indirect; intended and unintended) of consortium approach on benefiting paddy consortium members. The effects can be economic, socio-cultural, institutional, environmental and technological besides changes in production, productivity, income, capacity building and well-being.

**Other Indicators** determined by the study are the enterprise /economic and personal characteristics of beneficiaries – age, gender, marital status, family size, and membership of farmers group, livelihoods, nativity, educational attainment and constraints to paddy farming.

## **CHAPTER FOUR: DATA PRESENTATION AND INTERPRETATION**

## **Introduction**

To answer the research questions already generated in the first chapter of the study, this chapter therefore, presents and analyses the main questionnaire items. Starting with the smallholders' farmers personal and enterprise/economic demographic information, descriptive analysis was employed to present demographic information of the respondents ranging from the average monthly income, their years of involvement in paddy farming, source of their labour, educational background, marital status, age, among others. This is particularly necessary to understand the calibre of people selected for the study and the appropriateness of doing so. We also consider the family size of these smallholder farmers, the farmers association they belong as well as the size of farmland they cultivate to rate their production.

### **4.1 The Respondents' Demographic Information and the Economic/Enterprise Demographic Information**

#### **4.1.1 Result Base on Objective 1**

As earlier mentioned, it is always important to present the demographic information of the respondents before going on to the main analysis. Thus, based on the returned questionnaires coded and entered into SPSS, presented in 4.1 is the respondents' demographic information.

The spread in Table 4.1 below depicts the categories of smallholders farmers involved in the survey and the essence is to ensure that the most appropriate respondents were selected for the study. However, the population of the male exceeded that of female, male respondent's population stood at 191 (55.5%) while their female counterpart stood at 153 (44.5%). A cursory look at Table 4.1 shows that, the respondents with 18-30, 31-40 and 41-50 years of age were 5.2%, 14.5% and 46.2% respectively (collectively, 65.9%). Forming the remaining 34.1% are respondents of 51-60 and above 61 years of age. This is quite instructive in the sense that, majority of the farmers fall between what could be regarded as middle age, with 46% of the respondents being between age 41 – 50, while only 5.2 % are age 18 -30, this clearly shows that only about 20% of the farmers are still in their youthful age, the implication of this is that the future of agriculture in that area is not certain except more youths are encouraged to go into farming. Consequently, 2.9%, 2.3% and 81.7% of the respondents have no formal education, Quranic education and primary education respectively; two of them have secondary education and tertiary education respectively. This spread showed that 0.6% of the respondents wereadequately educated such that only 0.6% of them have tertiary education. Also, 4.9%, 3.8% and 76.5% of the respondents were single, co-habiting and married; while 6.4%, 1.7% and 7.0% of them were separated, divorced and widowed. It was observed that, most of these smallholder farmers are married, with the highest frequency of 263.

**Table 1 Demographic Data of the Respondents**

Gender (%)		Age (%)		Education Q.(%)		Marital Status (%)	
<b>Male</b>	191 (55.5)	18-30	18 (5.2)	<b>No Formal Education</b>	10 (2.9)	Single	16 (4.7)
<b>Female</b>	153 (44.5)	31-40	50 (14.5)	<b>Quranic Education</b>	8 (2.3)	Co-habiting	13 (3.8)
		41-50	159 (46.2)	<b>Primary Education</b>	281 (81.7)	Married	263 (76.5)
		51- 60	88 (25.6)	<b>Junior Secondary Education</b>	41 (11.9)	Separated	22 (6.4)
		Above 61	29 (8.4)	<b>Senior Secondary Education</b>	2 (0.6)	Divorced	6 (1.7)
				<b>Tertiary Education</b>	2 (0.6)	Widowed	24 (7.0)

Source: Field Survey 2018

**4.1.2 Result Base on Research Objective 1**

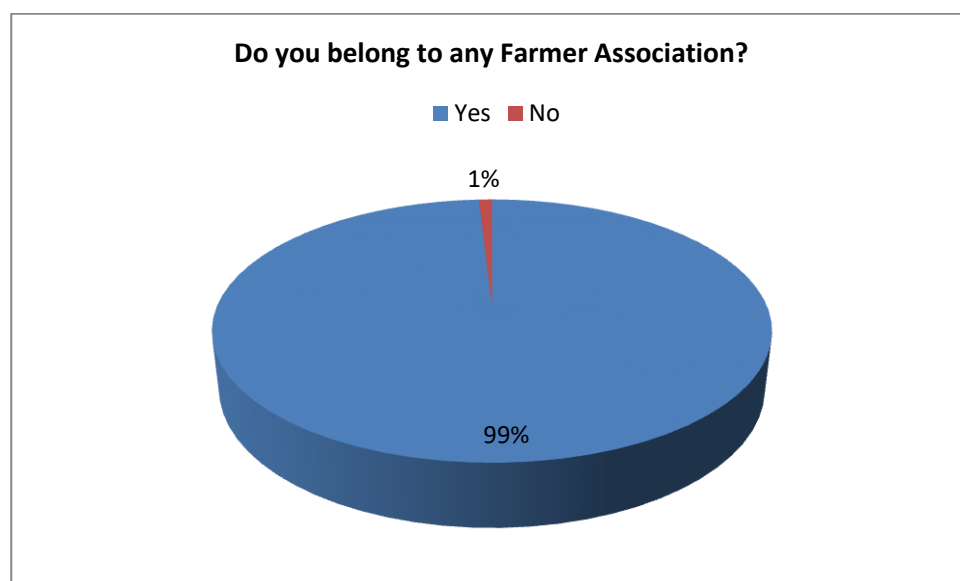
Having evaluated the education levels of the respondent as well as their marital status and gender, the next step to demonstrate in this section is to determine the economic/enterprise characteristics of the respondents to know the extent to which respondents is faring since their involvement in the paddy consortium platform. However, the Table 4.2 below shows that an average respondent have a family size of between 9-10 persons. Majority of them do not earn more than 21 – 40 USD monthly (22,045Tsh- 89,800Tsh). 46.8% of them cultivate between 1-2 Acres while only 5.2% cultivate between 4 - 5 Acres. The spread shows the source of labour of majority of the respondents to be their family member, with 58.7%, and 37.2% used hired labour, while 4.1% of them used communal effort and other means. This means that families of most of the paddy farmers collectively join hands together in land cultivation and production of farm produce. Lastly, 57.6% of the respondents own their lands, 32.6% inherited, 7.8% borrowed, 1.2% ownership by lease and 0.9% jointly own land. This indicate that the land tenure system being practiced in Sengerema district, Mwanza, Tanzania favours the farmers, and this will foster sustainable income growth and food security to paddy farmers as well Tanzania as a whole. Figure 4.1 below also shows that 99% of the respondents belong to one farmers association.



**Table 2: Economic/Enterprise Data of the Respondents**

Family Size (%)		Monthly Income (%)		Size of Farmland		Source of Labour		Source of Farmland (%)	
1-5 People	61 (17.7)	< 20 USD	29 (8.4)	< 1 Acre	39 (11.3)	Family members	202 (58.7)	Self-owned	198 (57.6)
6-8 People	116 (33.7)	21 USD-40 USD	285 (82.8)	1-2 Acres	161 (46.8)	Communal effort	13 (3.8)	Inherited	112 (32.6)
9-10 People	99 (28.8)	41 USD-60 USD	21 (6.1)	2-3 Acres	75 (21.8)	Hired	128 (37.2)	Borrowed	27 (7.8)
Above 11	68 (19.8)	61 USD-80 USD	9 (2.6)	3-4 Acres	51 (14.8)	Others	1 (0.3)	Lease	4 (1.2)
				4-5 Acres	18 (5.2)			Joint ownership	3 (0.9)

Source: Field Survey 2018



**Figure 4: Showing members of Farmer Association**

Source: Field Survey 2018

**4.1.3 Cross tabulation between Personal and Enterprise Characteristics of the Smallholder Paddy farmers.** This is to find out the hidden facts and if there is any cross relationship between these characteristics.

Figure 4.2 reveals a correlation between family size and the production as majority of respondents who cultivate above 5 acres have between 9- 10 people living in their household.

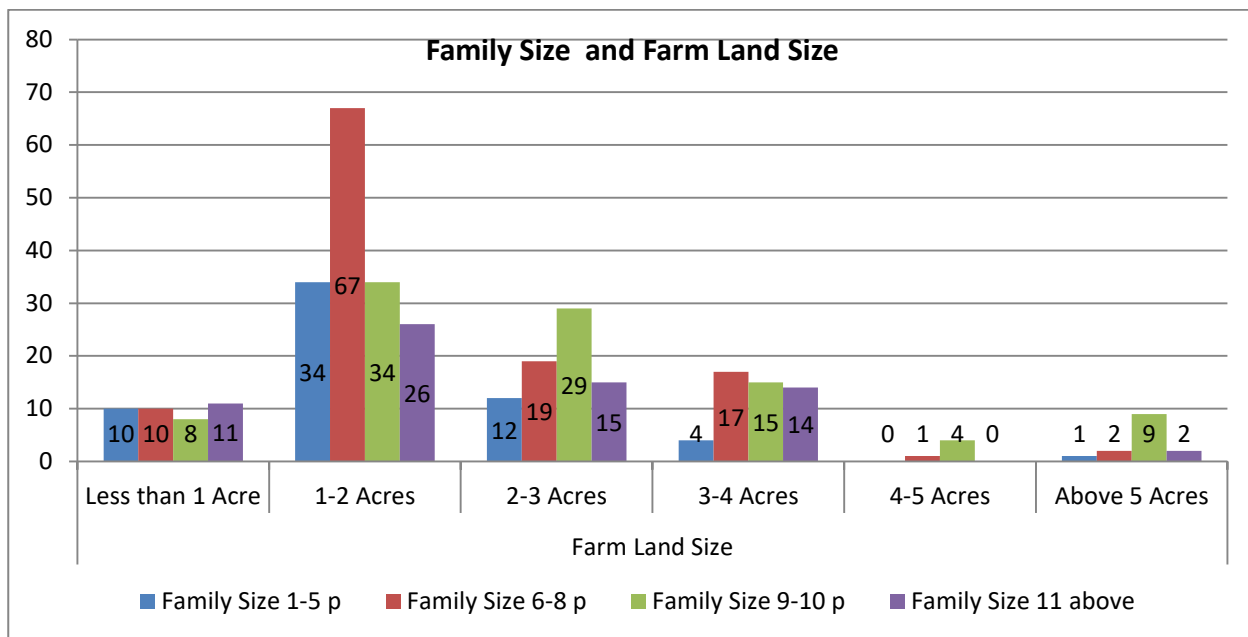


Figure 5: Showing crosstab between family size and farmland size

Source: Field Survey 2018

Figure 4.3 reveals that male respondents obviously cultivate more than the female respondents

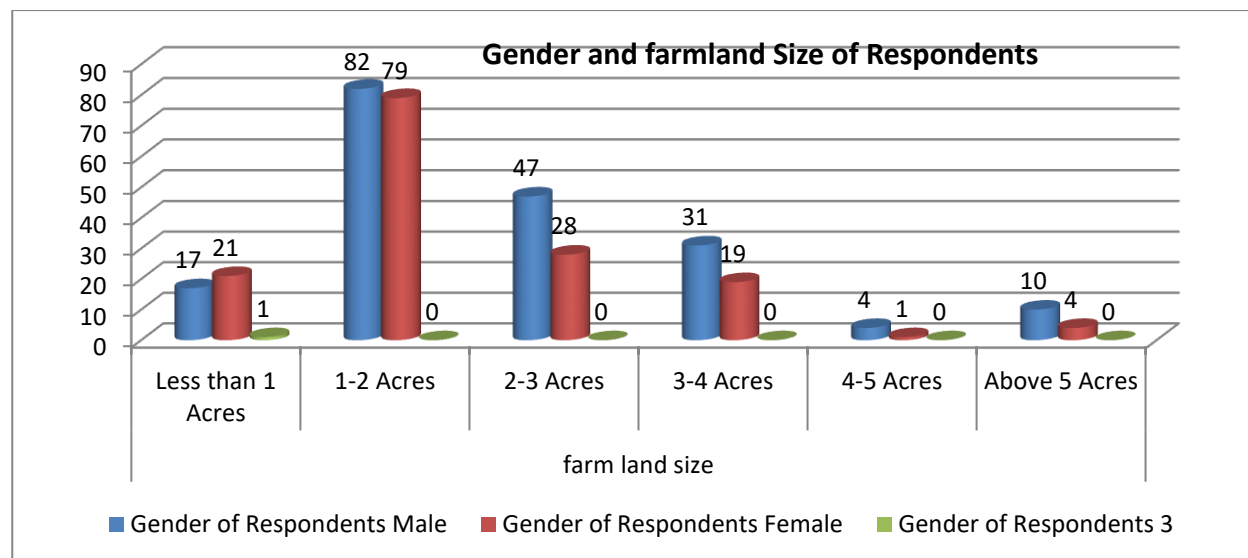


Figure 6 Showing crosstab between gender and farmland size

Source: Field Survey 2018

Figure 4.4 shows that respondents who cultivate more number of acres used hired labour, while people who use only family labour cultivate less.

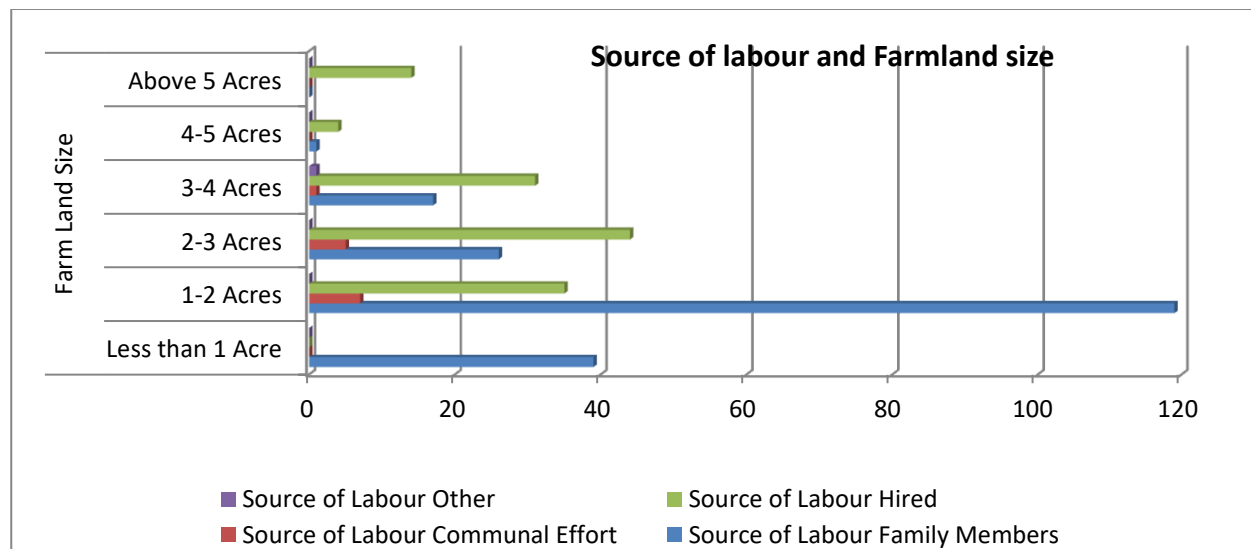


Figure 7: Showing crosstab between source of labour and farmland size

Source: Field Survey 2018

Figure 4.5 reveals that level of education has nothing to do with production, majority of the people who cultivate 4 acres and above don't even have more than primary school education.

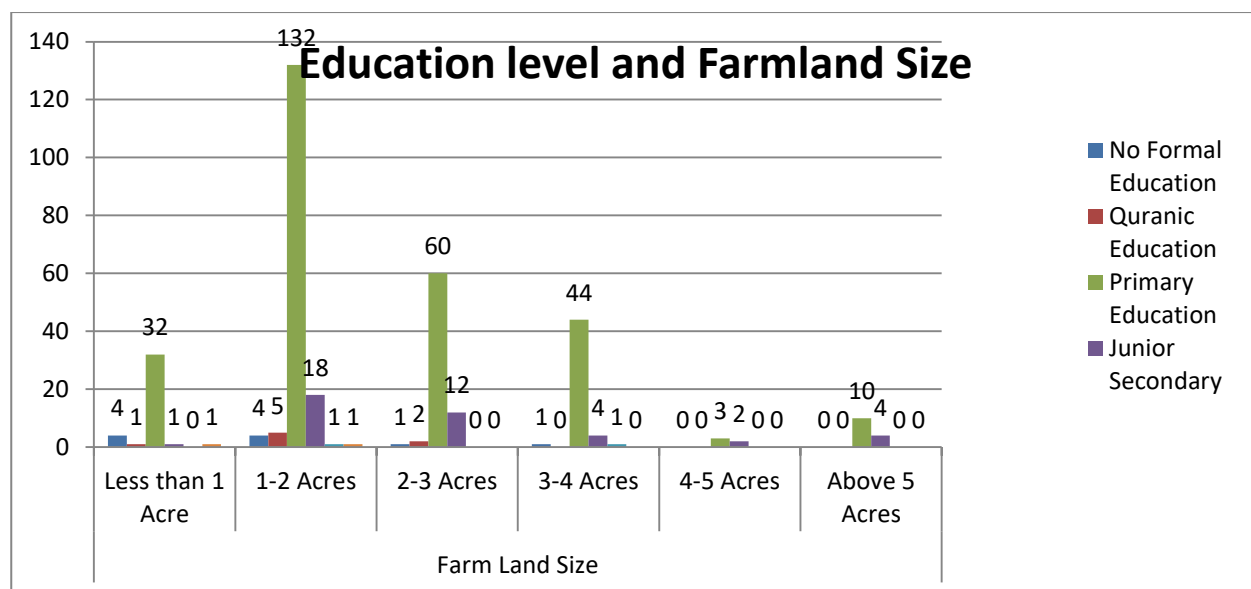


Figure 8: Showing crosstab between education qualification and farmland size

Source: Field Survey 2018

Figure 4.6 indicate that majority of the respondents (46.8%) do not cultivate more than 2 acres which implies that the respondents are indeed smallholders farmers.

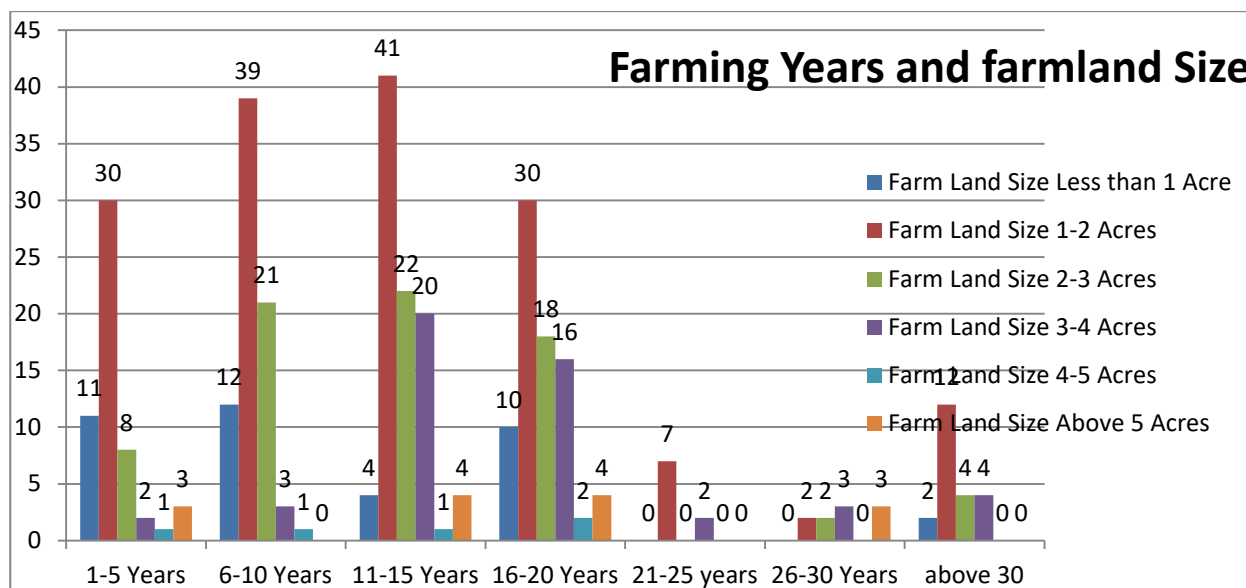


Figure 9: Showing crosstab between farming years and farmland size

Source: Field Survey 2018

The result in Figure 4.7 negates the assumption that those who do not combine other business with paddy farming would have more time and concentration to cultivate more, as respondents with other source(s) of income cultivate more than those without other source of income.

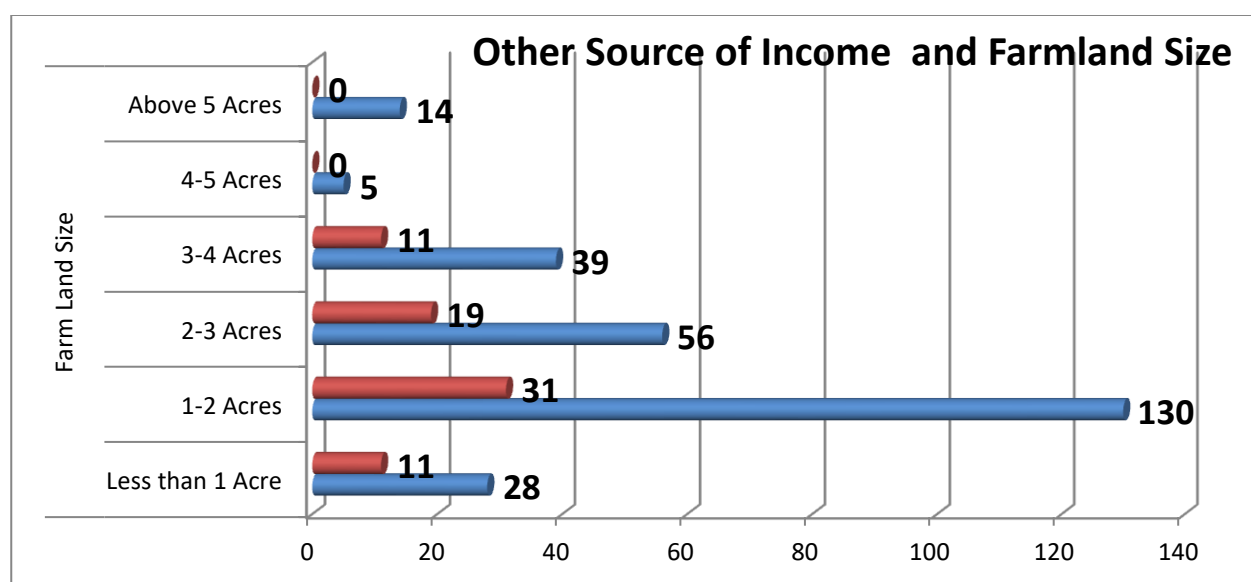


Figure 10: Showing crosstab between other source of income and farmland size

Source: Field Survey 2018

## 4.2 Benefits Derived from the Consortia Platform by Paddy Farmers

### 4.2.1 Result Base on Research Objective 2

Table 4.3 reveals that majority of the smallholder producer farmers lack support which can help them in farm activities and enhance their access to market before joining the paddy consortium platform. Smallholder producers have little or no access to benefits such as; financial assistance, input supply, market information, training, extension services among others.

The spread reveals that 41.6% and 58.6% of the respondents have somewhat difficult or no access to *financial assistance*. However, 27.6% and 54.1% of them admitted that, their association with paddy the consortium platform affords them very easy and easy *financial assistance*, with very few among them still finding it somewhat difficult or having no access at all (collectively, 18.3%). Similarly, 66.0% and 34.0% of the respondents have somewhat difficult or no access to *input supply*, and 51.2% and 48.3% of them admitted that their induction to the consortium platform afford them very easy and easy access to *input supply*. 44.2% and 55.8% of the respondents have somewhat difficult or no access to *market information* while 47.7% and 51.1% of them admitted that their induction to the consortia platform affords them very easy and easy access to *market information*. 23.5% and 53.8% of the respondents acknowledged that they have access to *training* before their admission to the consortia platform, while very few of them admitted somewhat difficult or no access to *training* before their admission to the platform. Moreover, the paddy consortium platform has improved the level of their access to *training* for about 22.1%, with majority of them now having access to exclusive *training* (collectively, 99.4%).

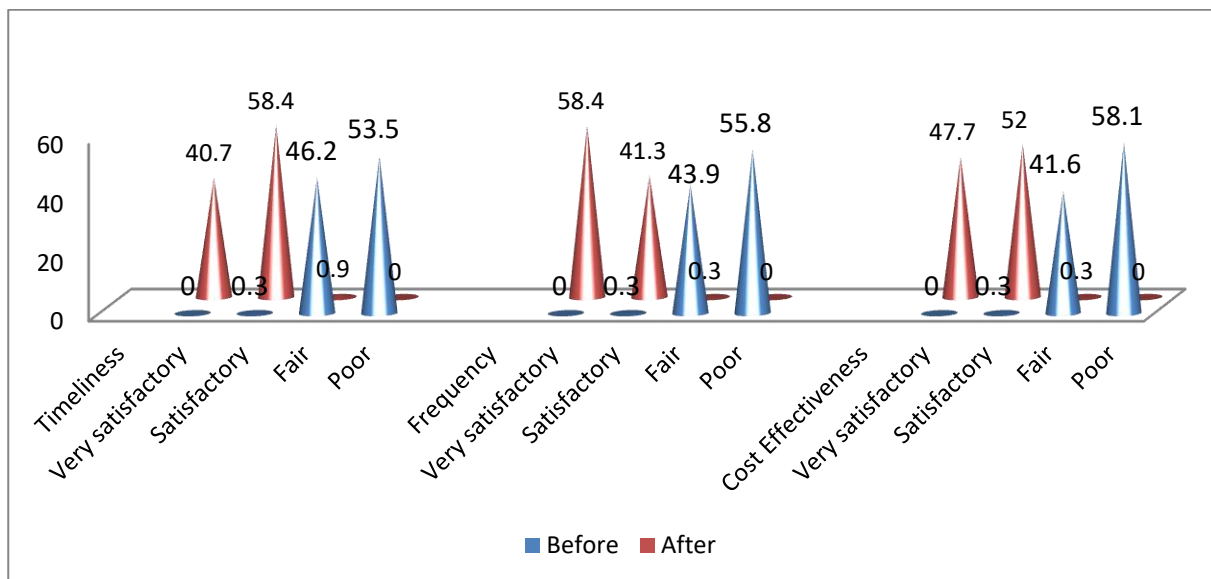
The table also reveals their access to extension services, 20.9% and 72.1% of the respondents have very easy and easy access to *extension services*, with very few of them finding it somewhat difficult having access to it before their admission to the consortia platform. Meanwhile, the platform improved their access to *extension services* just for about 6.7%. Conclusively, 66.0% and 43.3% of the respondents have somewhat difficult and no access to *other* things which were not capture in the survey, while 43.0% and 55.5% of them admitted that their involvement in the consortia platform afford them very easy and easy access to these *other* things. This implies that the government of Tanzania is working hard in providing training and extension services for their farmers, which is a laudable idea.

**Table 3: Supports for Paddy Farmers through the Platform**

<b>Benefits Category (Before (%))</b>		<b>Benefits Category(After (%))</b>	
<b><i>Financial Assistance</i></b>		<b><i>Financial Assistance</i></b>	
Somewhat difficult	143 (41.6)	Very Easy	95 (27.6)
No Access	201 (58.6)	Easy	186 (54.1)
		Somewhat difficult	27 (7.8)
		No Access	36 (10.5)
<b><i>Input Supply</i></b>		<b><i>Input Supply</i></b>	
Somewhat difficult	227 (66.0)	Very Easy	176 (51.2)
No Access	117 (34.0)	Easy	166 (48.3)
		Somewhat difficult	2 (0.6)
<b><i>Market Information</i></b>		<b><i>Market Information</i></b>	
Somewhat difficult	152 (44.2)	Very Easy	164 (47.7)
No Access	192 (55.8)	Easy	177 (51.5)
		Somewhat difficult	3 (0.9)
<b><i>Training</i></b>		<b><i>Training</i></b>	
Very Easy	81 (23.5)	Very Easy	180 (52.3)
Easy	185 ( 53.8)	Easy	162 (47.1)
Somewhat difficult	56 (16.3)	Somewhat difficult	2 (0.6)
No Access	22 (6.4)		
<b><i>Extension Services</i></b>		<b><i>Extension Services</i></b>	
Very Easy	72 (20.9)	Very Easy	190 (55.2)
Easy	248 (72.1)	Easy	153 (44.5)
Somewhat difficult	24 (7.0)	Somewhat difficult	1 (0.3)
<b><i>Others</i></b>		<b><i>Others</i></b>	
Very Easy	2 (0.6)	Very Easy	148 (43.0)
Easy	193 (56.1)	Easy	191 (55.5)
Somewhat difficult	149 (43.3)	Somewhat difficult	5 (1.5)

Source: Field Survey 2018

The figure 8 reveals the level of satisfaction derived by paddy farmers as a result of the support from the consortium platform. However, 40.7%, 58.4% and 0.9% of the respondents acknowledged that the timeliness of supports derived from the consortium platform as very satisfactory, satisfactory and fair. 58.4%, 41.3% and 0.3% of the respondents acknowledged the frequency of supports derived from being a member of the consortia platform as very satisfactory, satisfactory and fair. Moreover, 47.7%, 52% and 0.3% of the respondents acknowledged the cost of effectiveness of the supports derived from being a member of the consortia platform as very satisfactory, satisfactory and fair.



**Figure 11: Level of satisfaction of members Paddy Consortia Platform**

Source: Field Survey 2018

### 4.3 Change in Productivity leading to improvement in the level of sales and profitability

#### 4.3.1 Result base on Research Objective 3

Figure 4.9 below shows the change in productivity that all of the smallholder producers have witnessed since their involvement in the consortium platform, figure 4.10 reveals the membership of association of the paddy farmers, while figure 4.11 shows their level of access to market before and after they become a member of the consortium platform. It is worthy of note that all of them have witnessed tremendous change in the level of productivity (100.0%), 94.4% of the respondents were member of association before their involvement in the consortia platform, all of them became a member of association through the paddy consortia platform. In this context, it was revealed that the benefits which are accessible to members of the consortium platform drew the interested of the smallholder producers to becoming members of farmers association. However, figure 4.11 reveals that all these smallholder producers have poor access to market (100.0%). Meanwhile, their involvement in the consortium platform has provided them full access to market to sell their farm produces, with them now having 100.0% access to market.

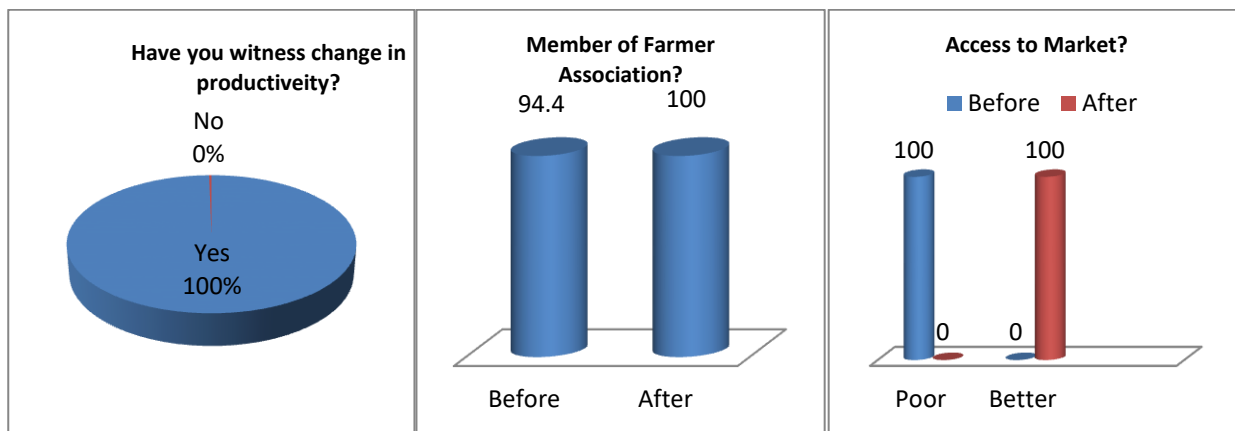


Figure 12: Showing some benefits derived by Paddy farmer from the Consortia Platform

Source: Field Survey 2018

Table 4.4 below reveals some of the changes witnessed by smallholder producers and their experiences in term of productivity before and after their involvement in paddy consortia platform, the changes they witnessed ranges from size of farmland, yield per acre, source of labour, and average income per season to farm ownership. The spread reveals a drastic increase in the size of farmland cultivated by these smallholder producers after their involvement in the paddy consortium platform. The respondents that cultivated between 2-5 acres and above 5 acres of farmland were about 38.4% and 3%, their involvement in the consortium platform have increased the size of farmland they cultivated to about 62.6% and 7% respectively. The respondents that experienced changes in yield per acres between 1000-6000kg and 6000kg & above were about 49.2% and 3%, their involvement in the platform have increased the level of yield per acres to about 73.2% and 6.7% respectively.

However, the spread also reveals the source of labour of these smallholder producers, 68.9%, 15.4% and 15.4% of them acknowledged their source of labour to be family members, hired labour, family & hired labour. Meanwhile, their involvement in the platform have relieved their families from labour (61.3%) and at the same time afforded them the opportunity to employ more hands into the farm (18%), though combined labour of family& hired increased to 20.3%. The average income per season of the respondents experience changes as well, 61.9% and 3.3% of the respondents recorded between 500, 000Tsh to 4, 000, 000Tsh and 4, 000, 000tsh to about 10, 000, 000tsh income, their involvement in the platform have improve the level of their income per season. 77.4% and 13.8% of them recorded between 500, 000tsh to 4, 000, 000tsh and 4, 000, 000tsh to above 10, 000, 000Tsh income. Furthermore, the respondents also experience better changes in farm ownership; 86%, of them acknowledged that they inherited their farm, 13.7% self-owned and 0.3% hired their farm. Involvement in paddy consortia platform brought a change as 90.4% of them now inherited their farm, but there is a decrease in the percentage of self-owned to 9%, while 0.3% of them leased and borrowed their farm respectively.



**Table 4: Change in productivity of paddy farmer since involvement in the Platform**

<b>Benefits Category (Before (%))</b>		<b>Benefits Category (After (%))</b>	
<i>Size of Farm</i>		<i>Size of Farm</i>	
1-2 Acres	202 (58.7)	1-2 Acres	105 (30.5)
2-3 Acres	83 (24.1)	2-3 Acres	134 (90.0)
3-4 Acres	44 (12.8)	3-4 Acres	44 (16.6)
4-5 Acres	5 (1.5)	4-5 Acres	24 (7.0)
5-6 Acres	3 (0.9)	5-6 Acres	11 (3.2)
6-7 Acres	4 (1.2)	6-7 Acres	3 (0.9)
Above 7 Acres	3 (0.9)	Above 7 Acres	10 (2.9)
<i>Yield per Acre</i>		<i>Yield per Acre</i>	
Less than 1000kg	165 (48.0)	1000-2000kg	69 (20.1)
1000-2000kg	98 (28.5)	2000-3000kg	129 (37.5)
2000-3000kg	53 (15.4)	3000-4000kg	82 (23.8)
3000-4000kg	12 (3.5)	4000-5000kg	28 (8.1)
4000-5000kg	3 (0.9)	5000-6000kg	13 (3.8)
5000-6000kg	3 (0.9)	6000-7000kg	7 (2.0)
6000-7000kg	5 (1.5)	7000-8000kg	7 (2.0)
7000-8000kg	2 (0.6)	8000-9000kg	3 (0.9)
8000-9000kg	2 (0.6)	9000-10000kg	2 (0.6)
9000-10000kg	1 (0.3)	Above 10000kg	4 (1.2)
<i>Source of Labour</i>		<i>Source of Labour</i>	
Family	237 (68.9)	Family	211 (61.3)
Hired	53 (15.4)	Hired	62 (18.0)
Family & Hired	53 (15.4)	Family & Hired	70 (20.3)
Communal Effort	1 (0.3)	Communal Effort	1 (0.3)
<i>Average Income per Season</i>		<i>Average Income per Season</i>	
Less than 500,000 tsh	120 (34.9)	Less than 500,000 tsh	31 (0.9)
500,000 -1,000,000 tsh	119 (34.6)	500,000-1,000,000 tsh	86 (25.0)
1,000,000-2,000,000 tsh	53 (15.4)	1,000,000-2,000,000 tsh	76 (22.1)
2,000,000-3,000,000 tsh	32 (9.3)	2,000,000-3,000,000 tsh	67 (19.5)
3,000,000-4,000,000 tsh	9 (2.6)	3,000,000-4,000,000 tsh	37 (10.8)
4,000,000-5,000,000 tsh	1 (0.3)	4,000,000-5,000,000 tsh	15 (4.4)
5,000,000-6,000,000 tsh	4 (1.2)	5,000,000-6,000,000 tsh	13 (3.8)
6,000,000-7,000,000 tsh	4 (1.2)	6,000,000-7,000,000 tsh	3 (0.9)
7,000,000-8,000,000 tsh	2 (0.6)	7,000,000-8,000,000 tsh	1 (0.3)
		8,000,000-9,000,000 tsh	2 (0.9)
		9,000,000-10,000,000 tsh	13 (0.3)
<i>Farm Ownership</i>		<i>Farm Ownership</i>	
Inherited	296 (86.0)	Inherited	311 (90.4)
Self-owned	47 (13.7)	Self-owned	31 (9.0)
Hired	1 (0.3)	Hired	1 (0.3)
			1 (0.3)
<i>Others</i>		<i>Others</i>	
Very Easy	2 (0.6)	Very Easy	148 (43.0)
Easy	193 (56.1)	Easy	191 (55.5)
Somewhat difficult	149 (43.3)	Somewhat difficult	5 (1.5)

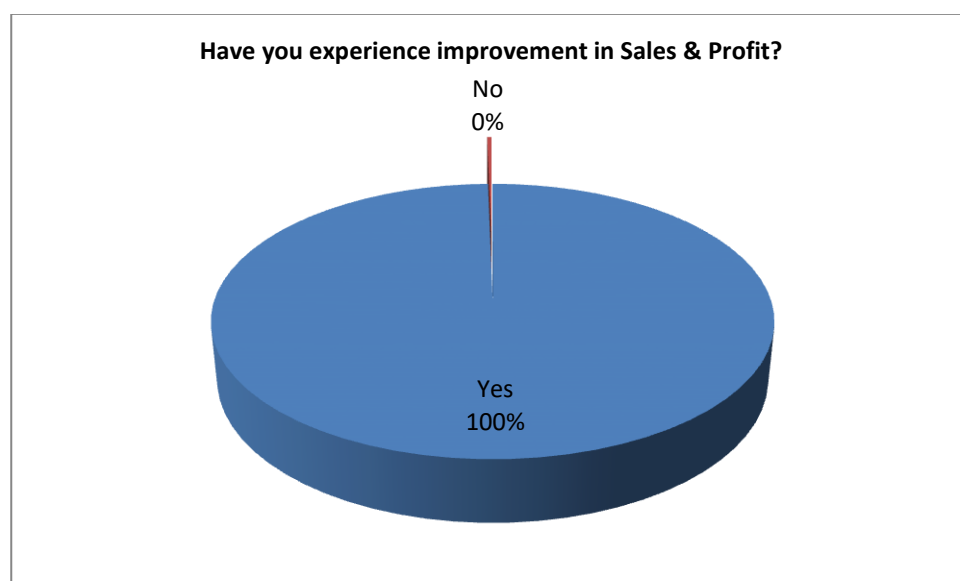
Source: Field Survey 2018

#### 4.3.2 Improvement in the level of Sales and Profitability

Figure 4.12 and 4.13 below reveals the sales and profitability improvement that the smallholder producers have witnessed before and since their involvement in the consortiums platform, figure 4.12 reveals an improvement in sales and profit, while figure 4.13 shows their other areas of improvement such as net

profit, customer satisfaction, income in kind, market demand, economics of scale and other things which were not captured in the survey. All of them have witnessed tremendous change in the level of sales and profits (99.7.0%). However, 0.3%, 66.9% and 32.8% of the respondents acknowledged that their *net profit* has improved, poorly improved and not improved. Involvement in the consortium platform brought change to this, 31.1%, 67.7% and 1.2% acknowledged greatly improved, improved and poorly improved. 0.3%, 0.3%, 52.3% and 47.1% of the respondents acknowledged improvement in their *customer satisfaction* has greatly improved, improved, poorly improved and not improved; while their involvement in the consortium platform also brought change to it, 45.3%, 54.4% and 0.3% acknowledged greatly improved, improved and poorly improved.

Moreover, 0.3%, 50.3% and 49.4% of the respondents acknowledged that their *income in kind* has improved, poorly improved and not improved; while their involvement in the consortia platform brought change to this, 46.2%, 53.5% and 0.3% acknowledged greatly improved, improved and poorly improved. 0.3%, 49.7% and 50% of the respondents acknowledged that their *market demand* has improved, poorly improved and not improved; while their involvement in the consortia platform brought change to this, 45.6%, and 54.4% of them acknowledged greatly improved, and improved. 0.3%, 50% and 49.7% of the respondents acknowledged that their *economic of scale* has improved, poorly improved and not improved; while their involvement in the consortia platform brought change to this, 48.8%, 50.6% and 0.6% of them acknowledged greatly improved, improved and poorly improved. Lastly, 0.3%, 49.7% and 50% of the respondents acknowledged improvement in other things pertaining to sales and profitability which were not captured in the survey as improved, poorly improved and not improved. Their involvement in the consortia platform brought about the changes recorded, 40.4%, and 59.6% acknowledged greatly improved, and improved.



**Figure 13: Showing improvement in sales and profit**

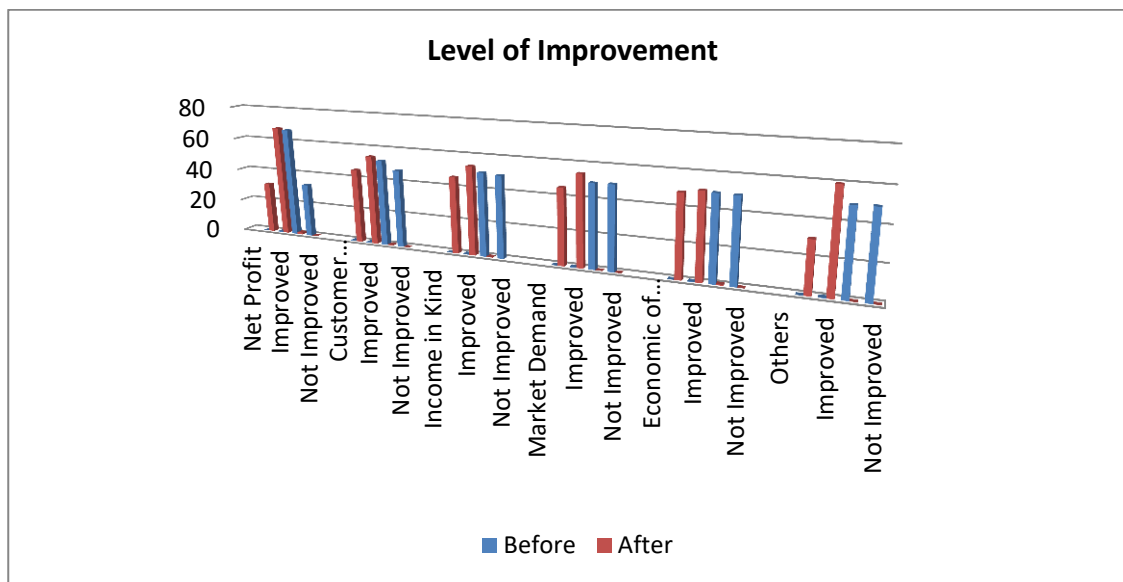


Figure 14: Showing improvement in profitability

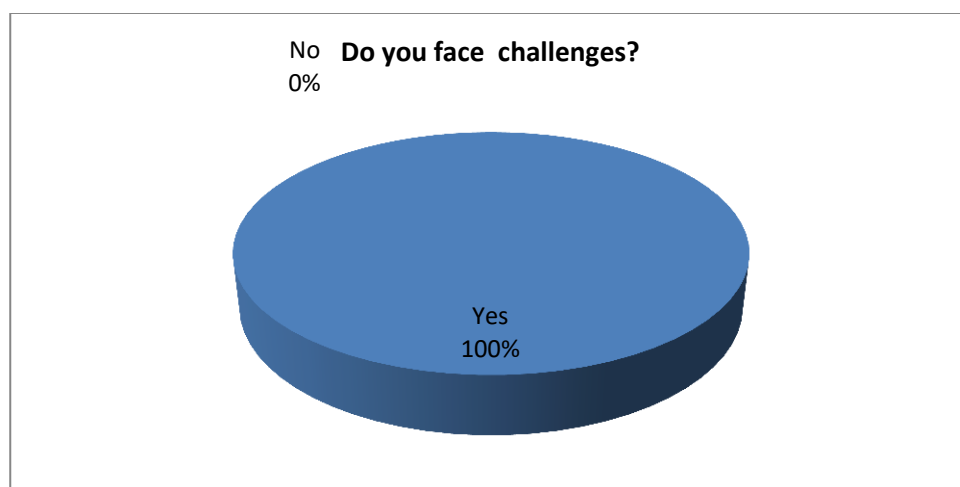
#### 4.4 Challenges faced by paddy farmer in their involvement in the Consortium Platform

##### 4.4.1 Result Base on Research Objective 4

This section discussed some of the challenges experienced by paddy farmers before and after their involvement in the consortium platform. Figure 4.14 below shows the entire smallholder producers faced one challenge or the other (100%). Table 4.5 below revealed these challenges as; finance, access to produce market, access to input market, technical support, and storage facility amongst others. However, 49.7% and 50.3% of the respondents acknowledged severe and mild challenges in their finance; while their involvement in the consortia platform brought change to this, 0.6%, 0.3%, 62.5%, and 36.6% acknowledged severe, mild challenge, not severe and not a challenge. 68% and 32% of the respondents acknowledged severe and mild challenges in their access to produce market; while their involvement in the consortium platform brought changes to this, 0.3%, 43.9%, and 58.8% acknowledged mild challenge, not severe and not a challenge.

Moreover, 59%, 40.7% and 0.3% of the respondents acknowledged *severe, mild* challenges and *not severe* in their access to input market; while their involvement in the consortium platform brought changes to this, 0.3%, 0.9%, 45.9% and 52.9% acknowledged severe, mild challenge, not severe and not a challenge. 29.9%, 45.9%. 17.4% and 6.7% of the respondents acknowledged severe and mild challenges, not severe and not a challenge in their technical support; while their involvement in the consortium platform brought changes to this. 2.0%, 44.9%, and 53.2% acknowledged mild, not severe and not a challenge. 53.2%, 45.3% and 1.5% of the respondents acknowledged severe and mild challenges and not severe in their storage facility; while their involvement in the consortium platform brought changes to this. 14.5%,

50.3%, 23% and 12.2% acknowledged severe, mild challenge, not severe and not a challenge. Lastly, 43%, 55.8%, 0.9% and 0.3% of the respondents acknowledged severe and mild challenges, not severe and not a challenge in other challenging issues which were not captured in the survey; while their involvement in the consortia platform brought change to this, 54.4% and 46.6% acknowledged not severe and not a challenge.



**Figure 15: Showing the entire paddy farmers faced challenges**

Source: Field Survey 2018

**Table 5: Particular Challenges face by Paddy Farmers**

Benefits Category (Before (%))		Benefits Category (After (%))	
<i>Finance</i>		<i>Finance</i>	
Severe	171 (49.7)	Severe	2 (0.6)
Mild	173 (50.3)	Mild	1 (0.3)
		Not Severe	215 (62.5)
		Not a challenge	126 (36.6)
<i>Access to Produce Market</i>		<i>Access to Produce Market</i>	
Severe	234 (68.0)	Severe	1(0.3)
Mild	110 (32.0)	Mild	151 (43.9)
		Not Severe	192 (55.8)
<i>Access to Input Market</i>		<i>Access to Input Market</i>	
Severe	203 (59.0)	Severe	1(0.3)
Mild	140 (40.7)	Mild	3 (0.9)
Not Severe	1 (0.3)	Not Severe	158 (45.9)
<i>Technical Support</i>		<i>Technical Support</i>	
Severe	103 (59.0)	Mild	7(2.0)
Mild	158 (40.7)	Not Severe	154 (44.9)
Not Severe	1 (0.3)	Not a challenge	183 (53.2)
Not a challenge	23 (6.7)		
<i>Storage Facility</i>		<i>Storage Facility</i>	
Severe	183 (53.2)	Severe	50 (14.5)
Mild	156 (45.3)	Mild	173 (50.3)
Not Severe	5 (1.5)	Not Severe	79 (23.6)
		Not a challenge	42 (12.2)
<i>Others</i>		<i>Others</i>	
Severe	148 (43.0)	Not Severe	187 (54.4)

Mild	192 (55.8)	Not a challenge	157 (45.6)
Not Severe	3 (0.9)		
Not a challenge	1 (0.3)		

Source: Field Survey 2018

#### 4.7 Hypotheses Testing

**Research hypothesis 1,  $H_0$ :** There is no significant difference in the level of sales (change in unit sales) by the farmers before and after their involvement in the platform.

A paired sample t-test was run to determine the level of sales by farmers before and after their involvement in the paddy consortia platform. There were no outliers in the data, as assessed by inspection of a boxplot. There was much improvement in the level of sales of the paddy farmers after their involvement in the consortia platform. However, for Net profit;  $t(343) = 62.165, p < 0.0005$ ; for Customer satisfaction  $t(343) = 121.211, p < 0.0005$ ; for Income in kind  $t(343) = 166.675, p < 0.0005$ ; for Market Demand  $t(343) = 171.799, p < 0.0005$ ; for Economic of scale  $t(343) = 242.908, p < 0.0005$ ; and for others  $t(343) = 171.979, p < 0.0005$ . Due to the mean(s) of these measurements of sale and income (Table) and the direction of their t-value(s), we reject  $H_0$  and conclude that there was a statistically significant improvement in the level of sales and income of the paddy farmers following their involvement in the consortium platform, since all their p-values  $< 0.0005$ . In this regards, the result have a positively effect on the paddy farmers profitability, an enormous profits were recorded among the farmers as a result of their involvement in the consortium platform.

**Table 6: Paired Samples Statistics**

	Mean	N	Std. Deviation	Std. Error Mean
Net profit before	1.7006	344	.47545	.02563
Net profit after	3.3256	344	.48343	.02606
Customers satisfaction before	1.5494	344	.52213	.02815
Customers satisfaction after	3.4622	344	.50409	.02718
Income in kind before	1.5407	344	.50644	.02731
Income in kind after	3.4913	344	.50487	.02722
Market demand before	1.5436	344	.50651	.02731
Market demand after	3.4971	344	.49882	.02689
Economic of Scale before	1.5174	344	.50648	.02731
Economic of Scale after	3.4942	344	.51194	.02760
Others before	1.5959	344	.50651	.02731
Others after	3.4971	344	.49143	.02650

**Table 7 Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Net profit before - after	-1.62500	.48483	.02614	1.57358	1.67642	62.165	343	.000
Customers satisfaction before - after	-1.91279	.29269	.01578	1.88175	1.94383	121.211	343	.000
Income in kind before - after	-1.95058	.21706	.01170	1.92756	1.97360	166.675	343	.000
Market demand before - after	-1.95349	.21090	.01137	1.93112	1.97585	171.799	343	.000
Economic of Scale before - after	-1.97674	.15093	.00814	1.96074	1.99275	242.908	343	.000
Others before - after	-1.90116	.29888	.01611	1.86947	1.93286	117.979	343	.000

**Research hypothesis 2, H<sub>0</sub>:** Farmer does not derive benefits/support as a result of their involvement in the platform.

Another paired sample t-test was run to determine the benefits farmers derive before and after their involvement in the paddy consortia platform. There were no outliers in the data, as assessed by inspection of a box plot. There were much benefits derived by the paddy farmers after their involvement in the consortia platform. However, for Financial assistance;  $t(343) = 43.226, p < 0.0005$ ; for Input supply  $t(343) = 94.697, p < 0.0005$ ; for Market information  $t(343) = 181.130, p < 0.0005$ ; for Training  $t(343) = 17.652, p < 0.0005$ ; for Extension services  $t(343) = 15.435, p < 0.0005$ ; and for others  $t(343) = 88.470, p < 0.0005$ . Due to the mean(s) of these measurements of benefits derived and the direction of their t-value(s), we reject H<sub>0</sub> and conclude that there was a statistically significant benefits derived by paddy farmers following their involvement in the consortium platform, since all their p-values  $< 0.0005$ . In this regards, the result revealed that the involvement of paddy farmers in the consortia platform give them access to input supply, market information, financial assistance to mention a few. The result also unveiled the effectiveness of the platform in enhancing smallholder farmers' access to market.

**Table 8: Paired Samples Statistics**

	Mean	N	Std. Deviation	Std. Error Mean
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Financial assistance before	2.0116	344	.49356	.02661
Financial assistance after	3.5843	344	.88055	.04748
Input supply before	1.4942	344	.47444	.02558
Input supply after	3.3401	344	.51221	.02762
Market information before	1.5320	344	.49733	.02681
Market information after	3.5581	344	.51691	.02787
Training before	1.4826	344	.80803	.04357
Training after	2.0552	344	.51194	.02760
Extension services before	1.4506	344	.51025	.02751
Extension services after	1.8605	344	.50409	.02718
Others before	1.5843	344	.52871	.02851
Others after	3.4215	344	.52226	.02816

**Table 9: Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Financial assistance before - after	-1.57267	.67479	.03638	1.50111	1.64424	43.226	343	.000
Input supply before - after	-1.84593	.36154	.01949	1.80759	1.88427	94.697	343	.000
Market information before - after	-2.02616	.20747	.01119	2.00416	2.04817	181.130	343	.000
Training before - after	-0.57267	.60171	.03244	.50886	.63648	17.652	343	.000
Extension services before - after	-0.40988	.49253	.02656	.35765	.46212	15.435	343	.000
Others before - after	-1.83721	.38516	.02077	1.79636	1.87806	88.470	343	.000

#### **4.5 Result Based on Research Objective 5**

##### **How smallholder farmers perceive and engage with other stakeholders on the consortia platform**

Qualitative data were gathered to respond to this particular objective through Key Informant Interview (KII) and Focus Group Discussion (FGD) with the head of smallholder farmers groups (chairman and secretary) head of Agricultural Marketing Cooperative Society (AMCOS) from each of the three desks (Marketing, Input, and Finance), head of the Service Providers among others. The following were the findings;

The programme was said to have started in 2015 with the service providers from Agri-business development companies mobilizing the farmers into groups. A constitution was prepared to guild the activities of members from regional levels down to the district level. All stakeholders on the platform are of equal importance and derive equal benefits. To access benefit on the platform you must be a farmer in Sengerema district and a member who is paying his membership dues regularly, attending meetings and obeying the rules and regulations of the platform. There is always pre planting season meeting and planning among members.

There is a principle of collective marketing which operate among the farmers, so, no farmer is expected to sell his produce alone or without bringing them to the warehouse. This practice ensure collective marketing and access to market, it gives them knowledge of trustees. Farmers on the platform have access to market information from the extension officers. There is warehouse receipt system whereby there is a management in charge of the warehouse with adequate security in place. The local market according to these people is unpredictable and unregulated so their produce are gathered together through the warehouse receipt system for onward transmission to the international market.

The practice has improved micro businesses and market expansion. Paddy value chain has components which link other products that give rise to other business activities. The system gives more advantage in terms of mechanism of linkage and capacity building of the smallholder farmers groups. This makes the farmers more knowledgeable in the area of better agricultural practice and soil management. It has improved youth involvement in other areas such as post harvest activities like transport business and food supply. The farmers enjoys government support in terms of good policies, regulations and infrastructure, with her development partners like Africa Development Bank, IFAD, MIVARF, Research Institutes and so on. Expectations of the members are met up to 80% according to the farmers. It was observed during the visit to the farm that the people have their farmland together even though there are demarcations; this will foster unity, brotherliness, team spirit and communal living.

#### **4.6 Result Based on Research Objective 6**

**Critical factors for sustainability in the structure/partnership model of the paddy Consortia platform.**



Results were hinged on data gathered through KII, FGD with Service Providers, head of Financial Institutions, head of operation of the consortium platform, Agri-Business and Marketing Expert, etc, many of who were intercepted during a stakeholders workshop which took place at Mwanza during the study.

According to **Mr Muhoni Leonard**, an Agri-business and Marketing Expert with MIVARF, the essence of the stakeholders workshop was to ensure that all parties involved in the agricultural value chain across the country are well linked together, established for a sustainable mutual operation even long after the foreign partners are out of the programme, he said, "It is a stakeholders workshop which is more or less like an orientation workshop, following the extension of the programme for two years which ordinarily ended in December last year,so we gather all stakeholders together to chat the way forward in terms of orientation on how to implement the programme towards the end.These stakeholders include officials from the Local Government Authorities, implementing agencies,Service Providers,private companies who are taking the capacity building to the smallholder producers,we also have officials from the regional offices, those who are dealing with the cooperative issues, are all represented here. We have representatives from the financial institutions who are also partners in the programme ".

Speaking about the approach being used to achieve result, Muhoni said, "Today we are looking at the consortium approach. This consortium approach is more of a trading platform where we have buyers or potential buyers who are not sure of where to get the produce,let's take paddy as an example, we have buyers and processors dealing in a large scale who find it is difficult to get their raw materials, in the other hand,we have the smallholder producers who have difficulties understanding what the market is ,so,the programme is an ideal of having a platform where partners in this value chain come together, the sellers of farm inputs,financial service providers and the off takers,all meet together to trade ,whatever weakness any of the groups have within their enclave,take for instance, the smallholder farmer groups who are organised under Agricultural Marketing Cooperative Society, AMCOS or SACOS come up with their needs with the buyers at the platform level".He also noted that they usually have their similar workshop quarterly, where they meet with various stakeholders to have a review of their activities, how well they are achieving their set objectives. This is to ensure a sustainability plan.

Another service provider, from the Sengerema District, facilitating linking farmers to the market through consortium model,**Mr. James Wembe** , also explained the consortium approach as a platform through which the Lead Firms,the big Buyers plan with the farmers in advance the amount required based on market specification in terms of quantity,quality and frequency as well as mode of delivery."They plan together base on the market need,then farmers start producing to meet the market requirements unlike in the traditional way where farmers produce without market specification, but base on this consortium

model, the plan start with the market,both farmers and buyer dialogue through what we call pre season meeting and find the market need,by this we mean the produce market,the farm produce market which will enable the farmers know the farm input require, maybe,fertilizer, improved seeds. The quantity and variety as demanded by the buyer in advance base on market specification,then the financial requirements and how to link them to the financial market. So, this things are interconnected, they work in a collaborative way and through the consortium model which is a business collaborative meeting, all stakeholders come together to take advantage of the business opportunity".

He stated further that before the introduction of the approach,traditionally, people were struggling to improve productivity but through the consortium approach challenges faced by farmers on market including storage,transport and so on are taken care of. "Market requirement determines the production pattern, how much the buyer will need from the financial institutions and the financial institutions become a part of the model because this is business for everyone, so this is different from the traditional way where farmers were at the centre but here market is at the centre of everything. The model according to Mr James reduces cost for all stakeholders, the farmers, the buyers,input suppliers,financial institutions and so on,instead of going around to meet individual which incurs more cost in terms of overhead, this is reduced because the consortium model brings everybody together".

As a sustainability plan, he explained that the periodic meeting afforded them the opportunity of profiling all potential stakeholders, the off takers, AMCOS,input providers in their areas,who and who are into what,what are the challenge, how can they work together, what assistance is needed from them,do they need capacity building, what role will the government play and so on.

Still on sustainability, according to Wembe,there was contractual agreement between producers and buyers as they usually sign memorandum of understanding, so also between farmers and financial institutions, between farmers and input suppliers as well,AMCOS stands in for the farmers as a body under which farmer producer groups come together. Another form of checks is the collective marketing,nobody sells outside of the consortium arrangement,when their produce comes in after harvesting,AMCOS ensure that the loan obtained from the financial institutions is refunded, all the payments pass through the account and deductions are made directly before the farmers get their balance.In case of defaults, the measure put in place for recovery is insurance, not just for defaults alone but if anything goes wrong in a particular planting season.They also have the government as a regulatory body. Farmers who sell their farm produce without taking them to the warehouse face serious sanctions.

**Mr Samuel Muganga**, head of a Lead Firm, (AMIS MAZAO Group) based in Shiyanga, also said, there are supermarket and yearly exhibitions in every zone where off-takers come to buy and zonal agricultural

extension show. The government serves as a regulatory body for the activities of all the members on the platform. The Tanzania Bureau of Standard TBS as a national institution helps regulate the quality of produce to meet up with international market standard. When there was low production last year, to prevent food scarcity in the country government came up with specification on the volume that should be sold out to foreign market. He said they are having a good deal and he could boldly say it is a mutually beneficial platform for all the members.

It is obvious from the data gathered that there is a sustainability plan on ground to ensure continuity of the programme.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Summary of Findings**

From the result above, the demographic characteristics of smallholder paddy farmers in the paddy consortium platform in Sengerema shows that more men are into paddy farming than women and less youth are involved in paddy farming. It is also obvious from the result that a large majority of the farmers do not cultivate more than 2 acres of land.

The result also indicate that family size of the farmers has something to do with the size of land cultivated by the farmers, education level has nothing to do with production because majority of the respondents don't have more than primary school education including those who cultivate more than 4 acres of land.

The data show that majority of the farmer do not have problem in terms of training and extension services even before their involvement in the consortium platform which help them with good agricultural practice. However, almost all of the farmers do not have the necessary support that could help their productivities like access to finance, input supply, market information which hinders production.

The consortium approach awaken the consciousness of the smallholder farmers to farming as a business and not just a means of meeting family need for food alone for the purpose of feeding alone, this however do not mean that many of them have crossed from subsistent farming to commercial. Access to inputs enabled by inclusion of input suppliers in the consortium reinforced by input credit and loan from bank have direct impact on production outputs. The collective marketing system through warehouse receipt system also promote access to market, supports improvement in production outputs. Collective action as a result of farmers group stimulates coordination and joint decision making. The availability of assured market drives upward trajectory of production output and volume off take by buyer. The level of increase in production and income recorded in the consortium indicated strong significance change over what was recorded before the consortium driven by increase in farmland cultivated.

### **6.2 Conclusion**

Largely, the approach has been effective in enhancing the smallholder producers' access to market which is leading to increase in the level of sales and income. However, other potential stakeholders need to be identified and incorporated in the consortium team. The other potential stakeholders include: AMCOS/Value Chain, Agribusiness Company, Insurance company, Research centres, Value Chain Development Partner and Neutral facilitator.

The lessons learnt should be applied to strengthen and scale up the consortium approach to value chain development of SMEs in Tanzania and in the EAC and Africa.

Commitment of members and result recorded shows strong evidence of sustainability and that would be better appreciated long after development partner exit the programme and a post monitoring and evaluation should be conducted to ascertain the sustainability of post impacts of the consortium. The intervention of the consortium in the area of training, access to inputs, credit, delivery mechanism, payment modality and market linkage founded on collaborative value chain that yield to win-win partnership is relevant as a consortium approach development.

Consortium approach as it brings together different representatives from different background try to jointly proffer solution to a common problem which engender cooperation and team spirit. The challenges facing the consortium in the area of poor storage facility, delay in input delivery, delay in loan disbursement, high interest rate, multiple taxes, trust issue, shortage of training staff and field resources, export ban, local way of drying paddy, lack of gender-friendly labour saving technology and working capital constraints are significant should be looked into. Addressing the identified challenges would make the approach to yield more value addition. The approach should be extended to other farmers, crops and regions.

Due diligence is required in the selection of partners who are not only competent but committed to keeping to the contract and ensures that partnership is not a zero sum game but a win-win relationship that ensures smallholder farmers are well integrated. The dependency on donors for continuity which excludes youths in agribusiness and lack of gender-friendly labour saving technology should be reconsidered.

### **5.3 Recommendations**

The report recommends as follow;

#### **Farmers**

It was observed during the study that there are differences in terms of yield even among farmers who cultivate the same size of land, this may be as a result of different farm practice, or some started planting early while others were waiting for adequate supply of rainfall. Good Agricultural Practice should be employed by all farmers bringing to bear the training and extension services. The farmers still need modern implement as many of them still use manual labour for what should be done with farm machinery.

Groups should leverage the potential paddy consortium to catalyze social programs (storage, educational & health, etc.) from other institutions. Better schedule of water management to reduce conflicts arising thereto and better demarcation of plots between farmers to avoid conflict during harvesting with combined harvester. Foster cooperation among farmers and farmers group. To improve the level of default, farmers

group should encourage and ensure members who receive loan payback. In facilitating loan repayment, groups should provide guarantee on the credit worthiness of members. Input suppliers should work with farmers to minimize water contamination with agrochemicals to reduce associated health challenges as well as adapt better ways of fumigating farms to reduce health implication on farmers. Farmers should weigh the cost-savings of transportation of inputs by comparing the effectiveness of either getting delivery direct from input suppliers or bearing the cost of transportation from input suppliers to farmers group. The option of bearing the cost of transportation would require farmers comparing the cost of hiring truck from the lead firm or other commercial transporters.

Farmers group should pull resources (paddy) together by expanding production to take advantage of financing encapsulate in warehouse receipt system (WRS).

### **Inputs Suppliers**

Timely supply of inputs to farmers in line with farming calendar and timely delivery to farmers groups to avoid associated costs of untimely delivery on production outputs. Farmers should not be at the receiving end of delay in processing of input credit advance from bank by input suppliers. To boost timely delivery of inputs, input suppliers should provide input credits to farmers and get reimbursement from bank through the existing payment arrangement. Farmers should be given trade discount for bulk purchase of inputs from input suppliers. There should be increase education and follow up/through with farmers on better use and application of inputs. Training of farmers on better application of inputs as indicated by farmers and observed in the study. The training should ensure timeliness and frequency. Work with other actors including farmers to incorporate drought tolerant, early maturing and pest resistant improved seeds variety as a mitigating measure to climatic change conditions in line with climate smart agriculture.

### **Financial Institutions: Bank**

Timely processing and disbursement of loan to farmers and release of payment for input credit advance to input supplier. Provide special bonus package to farmers to offset the burden of the interest charge. Work with Bank of Tanzania to provide one-digit interest rate to farmers in line with poverty reduction and growth enhancement of micro, small and medium enterprises (MSMEs) programs. Provide equipment loan facilities to farmers to procure gender-friendly labour saving technologies to mechanized and reduce workload of farmers especially women. Promotional advertisement contract should be awarded to best performing farmers as brand ambassadors. The financial institutions should put in place a monitoring mechanism to ensure that the loan obtained by AMCOSS in the name of farmers really get to the farmers.

### **Lead Firm**

Expand the financial access net to attract more financial institutions (banks) to be partners in the consortium. Expand the net of the consortium to accommodate other farmers, region and other crops by replicating the approach. Set up a monitoring and evaluation framework integrated with gender specialist for the consortium in line with sustainability plan. Institute a revolving fund to provide for training needs,

coordination and internal finance strengthening to provide for input credit needs of farmers so as to minimize delay of loan processing from bank. Adapt more technology in the area of modern equipment of drying of paddy as against using local way of drying paddy on tarpaulin. Work with key stakeholders in rice food subsector leveraging on networking to attract development program interventions and funding to strengthen the business and impact on rural poverty reduction and commercialization of smallholder farmers. Strengthen the firm's competitiveness, improve on product standardization and promotion and ensure that price negotiation with farmers reflect market reality in addition facilitate improvement on joint planning of partners. Gradual exit of MIVARF with sequential programs involving full participation of other partners

## **MIVARF**

Most of the farmers still have problem with storage facilities in spite of their involvement in the consortium platform, even though technical supports, extension services, training was not much of a problem for the farmers before joining the platform. Wards and farmer groups that are deficient in terms of storage facility should be looked into. There seem to be more concentration on marketing than production, a balance should be maintained in this regard. The farmers are not able to meet the market demand because production is solely dependent on natural rainfall, there is therefore need for irrigation scheme. There is need for technology improvement to increase production in order to meet market demand. There is problem of drought due to climate change, diseases attack on crops. Problems such as lack of feeder roads, infrastructure, grounding machines still confront the farmers. MIVARF need to do something about all these.

## **Policy Implication: Creating Enabling Environment**

The government believe that the lake zone does not need more attention because they receive 2 model of rainfall in a year, so, it concentrate on those part of the country that receive just one model of rainfall in a year. Adequate attention should be given to all zones because each zone has its uniqueness in terms of the crop they cultivate.

Not many youth are involved in agriculture which raises questions about the future and sustainability of agriculture in Tanzania. Government and MIVARF need to relax their rules to encourage more youth participation. There is always fluctuation in terms of annual production depending on rainfall distribution per year. There is therefore need for irrigation scheme in this zone to allow farmers cultivate all year round without depending on natural rainfall alone.

Need to develop crop or rain insurance for small scale holder producers (DRT, 2012) Government should benchmark policy impacts on rural areas especially on smallholders (rural lens concept). While politics of

food will continue to be there, the outcome should not be at detriment of commercializing smallholders. Effort should be increased in tackling smuggling of rice into the country with institutional strengthening and citizens' enlightenment.

Develop and promote crop and rain insurance for smallholders to ameliorate the risk of climate change effect (DRT, 2012). GOT should work out an insurance package for smallholders and also develop PPP on agricultural insurance.

The GOT should work with the EAC Partner States to operationalize the EAC Climate Change Fund to leverage on the Green Climate Fund and other climate finance mechanisms to mitigate climate change effects.

Provision of weather forecast infrastructure to disseminate information through two-way communication to farmers to reduce loss associated with climatic change condition. Infrastructure should prioritize linking smallholders to market, in order to close the gap of low productivity and income (SID, 2016).

It is strongly recommended that more time and resources be made available to strengthen the relationship and key partners in the consortium of rice farmers in Sengerema so that the consortium have a strong footing and that in the process focusing more on key sustainability elements so that after that period the system continues without support of external partners (Service Provider)

The consortium developed with the support of MIVARF intervention are still depending on financial support from the MIVARF program at 100%. Upon the close of the support from Mivarf, there will be no existence of the initiated innovation platforms, due to the fact that they all lack element of sustainability including institutional, financial, technical and importantly the main off-taker. Unlike the Rwanda case where the off-taker is the main player addressing both forward and backward sector production and growth potentials. The current existing platforms is run as the stakeholder platforms, while it as well consists of the buyer or the so called off-takers, but it is a fact that they were not adequately selected based on a thorough due diligence backed with merits of their investment in the subsector and future growth plan and potential.

It is therefore important for the MIVARF to look at how the lessons learnt can be demonstrated by the delegates who got this opportunity as an entry of scaling the lessons beyond the Lake zone from paddy even other sectors.



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## Appendices

### **RESEARCH INSTRUMENT FOR MEASURING EFFECTIVENESS OF PADDY CONSORTIA PLATFORM IN ENHANCING SMALLHOLDER PRODUCER ACCESS TO MARKET IN SENGEREMA DISTRICT, MWANZA, TANZANIA**

You have been selected to be one of the respondents and as a participant in the paddy consortia platform in Sengerema District, we would like to ask you some questions to better understand how effective this platform has been in enhancing your access to market.

Your participation is completely voluntary and all information provided will be kept confidential and strictly be for research purposes. Please study the research questions carefully and respond accordingly. The researcher is a graduate student of the University of Ibadan, Nigeria. The study is in partial fulfilment of the award of Masters in Development Practice of the Development Practice Programme of Centre for Sustainable Development, University of Ibadan, Nigeria.

Name of Enumerator :.....

Date of Interview :.....

Place of interview (ward) :.....Village :..... Respondent's contact ..... Questionnaire ID :.....

Are you willing to participate in this interview? Yes :..... No :.....

Name of respondents.....

#### **PART A: Background Information.**

##### **Personal characteristics of respondent**

1. Age of respondent (as at last birthday, in years)

1. 18-30 2. 31-40 3. 41-50 4. 51-60 5. Above 60

2. Gender of respondent 1 Male 2 Female



13 Do you derive any benefit/support from the platform? 1. **Yes** 2. **No**

Benefits enjoyed by paddy farmer **before** and **after** joining the consortia platform.

Kindly indicate your experiences of access to the following agri- support services before and after your membership of the consortia platform by ticking the appropriate option bellow.

		<b>Before</b>				<b>After</b>				
S/N	Supports/benefit	Very easy	Easy	Somewhat difficult	No access	S/N	Very easy	Easy	Somewhat difficult	No access
14	Financial assistance					20				
15	Input supply					21				
16	Market Information					22				
17	Training					23				
18	Extension services					24				
19	Others					25				

Satisfaction with the benefits/support

Please, kindly rate the level of your satisfaction with the benefit/support from the consortium on the scale of; 1. Very satisfactory 2. Satisfactory. 3. Fair 4. Poor

S/N	Satisfaction level	<b>Before</b>	S/N	<b>After</b>
26	Timelines		29	
27	Frequency		30	
28	Cost effectiveness		31	

**PART C: Change in productivity of paddy farmer since involvement in the consortia platform.**

32. Have you witnessed any change in productivity since your involvement in this consortium?

Yes 2. No

Kindly indicate in the columns below the changes your experience in productivity since your involvement in the consortia platform.

S/N		<b>Before</b>	S/N	<b>After</b>
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33	Size of farm land in acre		40	
34	Yield (how many bags of paddy are harvested from the whole land in (1) above?)		41	
35	Source(s) of labour		42	
36	Average income in a planting season		43	
37	Farm ownership		44	
38	Membership of farmers Ass.		45	
39	Access to market		46	

**PART D : Improvement in level of sales and income of the paddy farmers since involvement in the consortium platform.**

47. Will you say your paddy farming has witnessed any form of improvement in sales and income since your involvement in this consortium? 1. Yes 2. No

Please, kindly use the table below to rate the level of improvement in income and sale you experience since your involvement in this consortium

		<b>Before</b>					<b>After</b>				
S/N	Level of improvement	Greatly improved	improved	Poorly improved	Not improved	S/ N	Greatly improved	improved	poorly improved	Not improved	
48	Net profits					54					
49	Customers satisfaction					55					
50	Income in kind					56					
51	Market demand					57					
52	Economic of scale					58					
53	Other					59					

**PART E : Challenges faced by paddy farmer in their involvement in the consortia platform**

60. Will you say you face any challenge as a result of your involvement in the consortia platform?

1. Yes 2. No

Kindly identify from the list challenges below the particular challenge(s) you face in your paddy business.

Severity of challenge

S/N	Challenges	Before				After				
		Severe	Mild	Not severe	Not a challenge	S/N	Severe	Mild	Not severe	Not a challenge
61	Finance					67				
62	Access to produce market					68				
63	Access to input market					69				
64	Technical support					70				
65	Storage facility					71				
66	Other					72				

**PART F**

**Examining how smallholder farmers perceive and engage with other stakeholders on the consortia platform**

**KEY INFORMANT (KII)/FOCUS GROUP DISCUSSION (FGD) INTERVIEW GUIDE:**

**TARGET RESPONDENTS: head of smallholder farmers groups (chairman and secretary) head of Agricultural Marketing Cooperative Society (AMCOS) from each of the three desks (Marketing, Input, Finance) who are involved in Lake/Southern Zone Consortia Platform and the head of the Service Provider.**

**Questions; Head of farmers group**

1. How long has your farmers group been involved in this consortia platform?
2. How do you come about being a member?
3. Are expectations of your farmers group being met since you joined?
4. To what extend can you say your expectation is being met?, rate in percentage.
5. Do you wish you had joined earlier before the time you did?
6. Have you introduced any other farmers group to the platform since you joined?.
7. What are the rules of engagement with the platform?
8. What would you rather have changed in the structure or way the platform is being operated, researchers, policy makers,....?
9. Which of the stakeholders on this platform are most important to you (marketing, input, financial?)
10. What other service or support would you want included in the offer of the consortia platform?
11. What are your responsibilities and level of involvement in the platform?
12. What do you think about the consortia platform project and what was your main attraction?
13. To what extent has the platform increased your access to credits?



14. To what extent has the platform increased your access to seeds?
15. To what extent has the platform increase your access to fertilizer?
16. To what extent has the platform increased your access to technology?
17. To what extent has the platform increased your access to Good Agricultural Practices (GAPs)?
18. Through the platform, how have you gained improvement in access to market?
19. Through the platform, how has delivery mechanism improved your income?
20. Through the platform, how has payment modalities improved your income?
21. Through the platform, how has access to inputs improved your income?
22. Do you think the platform has helped you to identify profitable and major local, and international markets?
23. Do you think the project has helped you to meet the market requirements (locally and internationally)?
24. What are the most common markets channels/buyers uses before and after joining the platform?
25. Is the market demand beyond current production capacity? What are you doing to meet the capacity?
26. What are the major challenges faced during the production of your commodity?
27. What are the major challenges faced during the marketing of your commodity?

### **Questions; Heads of Agricultural Marketing Cooperative Society (AMCOS)**

1. Are you able to meet the demand of the Off-takers/lead firms?
2. What is the average supply of the farmers produce or commodity per annum (quantity in tons)?
3. What are the other potential market/demand sources?
4. What storage arrangement do you have for warehousing commodities?
5. Has there been increase, decrease or no change in supply capacity during the project?
6. How many farmers were reached through farmer-producer groups?
7. What have been the benefits of the approach compared to other conventional value chain approaches?
8. How has it created or supported micro businesses?
9. How can it improve youth and women participation in agribusiness?
10. Are you enjoying government support in terms of policies and regulations?

### **Questions; Service Providers**

1. What informed your decision to organise the farmers into groups.
2. What are the challenges you face as a coordinating body in organising the farmers to achieve their objectives.
3. What are the Strengths, Weaknesses, Opportunities and Threat of this platform?

4. Have you had any reason to disengage any farmer or groups of farmers from this platform?

5. What are your Success factors?

#### **PART G:**

**Examining the critical factors for sustainability in the structure/partnership model of the paddy Consortia platform in Sengerema, Mwanza Region of Lake Zone.**

**KEY INFORMANT (KII)/FOCUS GROUP DISCUSSION (FGD) INTERVIEW GUIDE:**

**TARGET RESPONDENTS :head of operation of the consortium platform.**

#### **Questions;**

1. What are the rules of engagement of the consortia platform?

2. Do you enter into any formal agreement with the participants?

3. What are the mechanisms put in place to prevent defaulting by members?

4. In case of default from any party, what are the recovery measure?

5. Who are your critical stakeholders in this arrangement?

6. Do you think the way the consortia platform is structured puts some actors at a disadvantage position?

How?

7. Are you able to meet the demand for inputs by the farmers?

8. Are there formal contractual agreements between the farmers and Off-takers?

9. How is the delivery mechanism of supply to farmers structured? And what are the factors that influence the delivery mode?

10. How responsive and timely is the delivery of supply to farmers?

11. Are the farmers able to meet your demand for commodity?



