Microfinance Services and Their Effects on Smallholder Farmers' Incomes and Productivity in Eswatini

by

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DEDICATION

I dedicate this work to my God Almighty, who made this day possible with so much gratitude. He was my source of hope, wisdom and strength throughout this program. I also dedicate this work to my significant other, Henri-Count, who believed in me and gave his undefinable support from the onset till completion of my degree; I am a loss for words.

I also dedicate to my family, who motivated and supported me in different ways as I pursued my studies. To my lovely daughter Sisekelo, thank you so much for understanding when I couldn't spend time with you. Instead of on my dissertation, I dedicate this work to my close friends and relatives who have touched my heart.

DECLARATION

Name: Dlamini Yolanda Siphesihle

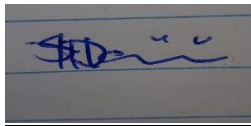Student Number: 10370188

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I, declare that the above dissertation is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the dissertation to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at UNISA for another qualification or at any other higher education institution.

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ACKNOWLEDGEMENTS

ABSTRACT

About 63% of the Swat population live under the poverty line, of which a majority of them make ends meet through smallholder farming. Microfinance institutions in Eswatini are the most powerful tool used by the government and stakeholders in eradicating poverty through granting their services to the financially excluded smallholder farmers. However, the effects of microfinance on smallholders' wellbeing, improvement, income and productivity remain a mystery.

The study sought to understand the contributions of microfinance services towards improved incomes and productivity of maize and sugar cane farmers in the Lubombo Region. Stratified random sampling was used to identify the 202 smallholder farmers who participated in the study, beneficiaries and non-beneficiaries of microfinance. Purposive sampling was also used to determine the two microfinance institutions.

Data were analysed using descriptive statistics, STATA and Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to identify the operating microfinance institutions in the country and the types of services provided. Levels of credit repayment among the farmers and challenges faced by microfinance clients inhibiting their success were also assessed using descriptive statistics. A Mann Whitney U test was applied to determine microfinance services' impact on smallholders' incomes and productivity. Finally, a fractional logit regression was employed to assess the credit repayment factors of the microfinance beneficiaries.

The Mann Whitney U Test indicated that beneficiaries had improved incomes and productivity compared to their counterparts. Comparisons were made from incomes and productivity generated from maize production, on the ownership of machinery and farming implements, home and farm investments and finally on economic and social statuses between the two farmer groups. The fractional regression results indicated that level of education, the sufficiency of the loan, extension services, distance and the amount of credit received by borrowers significantly determined the loan repayment among the smallholder farmers in the study area. Descriptive statistics revealed that more males participated in microfinance services, yet only 22.8% of women were given credit. Credit was also shown as the most popular and used service that 99.2% of the beneficiaries used. A gap is seen in the lower participation levels of women to microfinance institutions and skewness of the uptake of services provided by the institutions.

Therefore, the study recommends that more research be done on women's challenges when seeking for credit from microfinance institutions. It is also recommended that microfinance institutions should familiarise farmers with the different types of services provided.

LIST OF ABBREVIATIONS

ACCION   American for Community Co-operation in Other Nations

CAAP   Comprehensive Africa Agriculture Development Programme

CGAP   Consultative Group to Assist the Poor

COVID – 19   Corona Virus Disease

EIDC   Industrial Development Company of Eswatini

ESEPARC   Eswatini Economic Policy Analysis and Research Centre

FAO   Food Agricultural Organization

FINCORP   Eswatini Development Financial Corporation

FSDIP   Financial Sector Development Implementation Plan.

GDP   Gross Domestic Product

IFAD   International Fund for Agricultural Development

MFI   Microfinance Institution

MFU   Micro Finance Unit

MINECOFIN   Ministry of Finance and Economic Planning

MSME   Micro, Small and Medium Enterprises

NGOs   Non-Governmental organizations

NMC   National Maize Corporation

RFEDP   Rural Finance and Enterprise Development Programme

SACU   Southern African Customs Union

SADP   Swaziland Agricultural Development Programme

SDG   Sustainable Development Goals

SNL   Swazi Nation Land

SPSS   Statistical Package for Social Sciences

SSA   Swaziland Sugar Association

TDL   Title Deed Land

UNDP   United Nations Development Programme

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CHAPTER 1

INTRODUCTION AND BACKGROUND

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1.1 Introduction

Ledgerwood (2000) and Robinson (2001) described microfinance as a tool that allowed the poor and low-income earners to access traditional financial services. The poor are normally turned back due to a lack of collateral which would enable them to access a wide range of financial services such as credit, insurance, savings, deposit and payment services. Mago and Hofisi (2014) elaborated on the journey of microfinance and explained that it began in the 1970s, when Bangladeshi Professor Muhammad Yunus launched the Grameen Model by giving out small loans to local people. The concept then produced practical effects, with the poor receiving microfinance and the establishment of the Grameen Bank as a result of the efforts.

Adu-Gyamfi and Ampofo (2014) identified microfinance as one of the most effective mechanisms for directly assisting the rural economy in alleviating poverty by making appropriate financial intermediation available to the rural poor who are primarily unable to raise the necessary collateral to access credit from the mainstream financial market. They further elaborated that microfinance is the best approach to improve smallholder farming since it makes loans, savings, and other services like micro-insurance, micro-housing, micro-tourism, and micro-green more accessible. Mago and Hofisi (2014)added on the importance of microfinance to smallholder farming and mentioned that it enabled smallholder farmers to receive small loans to keep their agricultural operations running smoothly.

1.2 Background in The Region and Country

The region of Sub-Saharan Africa faces consistent challenges of rural poverty and environmental degradation, in which mainly the vulnerable of the population are the rural poor who rely on agriculture primarily for sustainability. The productivity of smallholder farmers in this region is often constrained by financial services, lack of appropriate technology, and farmers' inability to bear risks (Dlamini & Mohammed, 2018; Muimba-Kankolongo, 2018; Opportunity International, 2013; Salami et al., 2010). Salami et al. (2010) considered agricultural productivity as the critical determinant of high and sustained agricultural growth over the long term for smallholder farmers. Opportunity International (2013) attributed the declining trend and low productivity of crop production by smallholders in Africa to the lack of access to finance.

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Eswatini being ranked in the lower-middle-income category and the country still recording high poverty levels, the World Bank noted that 39.7% of the population had been living under the international $1.90 poverty line in 2016 (The World Bank, 2019). The World Bank (2019) estimated that, generally, over 58.9% of the people in the country live in poverty. In addition to the high poverty levels, the country has a high unemployment rate, with youth unemployment being over 49% as of 2016, and most of the people (67%) live in rural areas where they are involved primarily in subsistence farming as a means of survival and earning income. The European Commission (2019) also noted that Eswatini's economy is a reasonably diversified open economy with agriculture as the mainstay of the economy (agriculture, forestry, and mining contribute 13% to GDP while manufacturing – sugar-related processing account for 37% of GDP).

The Kingdom of Eswatini's economy has been in a fragile state, owing to the slowdown of the economic activities of the primary and tertiary sectors of the economy in the past five years. The Government of Eswatini, the critical enabler of the Swati economy, has experienced more economic challenges perpetuated by the COVID – 19 pandemic, which has exacerbated an already fragile financial situation. The country's small and regionally integrated economy shows that a huge part, 60% of the governments' budget, is Southern African Customs Union (SACU) receipts and that large companies operating in the country are a part of South African groups (Thom et al., 2014). The Center for Financial Regulations and Inclusion, 2014 continues to narrate that the small economic base of the country denotes a small formal employment market in the country. Therefore, there is a huge need for economic diversification to reduce heavy reliance on SACU receipts and the government. The government considers financial inclusion to be one of the practical economic recovery strategies.

As a result of many businesses/economic activities being dependent on Government, the current fiscal challenges have constrained public expenditure and the limited ability of the economy to create employment and opportunities for growth (ESEPARC, 2020). The Government of Eswatini through the Eswatini Economic Policy Analysis and Research Centre then designed a Post Covid – 19 Recovery Plan that is meant to revitalize the country's economy. The plan was deliberately designed not to leave any economic participating activity behind and create abundant opportunities for the different components of the Eswatini economy, particularly the MSME sector.

In its quest to attain most of the Sustainable Development Goals, the Government of Eswatini's poverty alleviation strategy is SDG goal 1 to support small businesses through the provision of microfinance to eligible and interested small-medium enterprises including smallholder farmers. The Government of Eswatini, through the Post Covid – 19 Recovery Strategy, has since intervened to rescue small farmers from the negative impacts of the pandemic by contributing an amount of E50 million to inject in the microfinance institutions. The smallholder farmers and other small-medium enterprises will access the credit through the different microfinance institutions including, FINCORP, Eswatini Bank, Inhlanyelo Fund, The Youth regional Development Fund and the Poverty Reduction Fund.

Sugar cane smallholder farming is primarily practised by many rural households in the Lubombo and Lowveld regions as a means of income generation. In terms of the share of Gross Domestic Product (GDP), sugar cane is the largest industry in Eswatini with approximately 400 million US$ revenue per year. It contributes roughly 35% of the private sector employment (Swaziland Sugar Association, 2015). In Eswatini, maize is the most grown crop in all four regions of the country, both for commercial and subsistence purposes, as it is the staple food in the country. National Maize Corporation (2016) observed a 47% maize production decline in the country, attributed to constraints faced by maize farmers in the country. Both maize and sugar cane smallholder farmers are encountering similar problems which affect their productivity and incomes. Access to inputs and finance has been a constraint to the smallholder farmers in Eswatini, which relatively affects their productivity. In worst cases, the farmers halt production and rely on food aid for survival (S. Dlamini et al., 2019; Terry & Ogg, 2017a).

The lack of capital has been cited as a significant factor contributing to less productivity and thus reduced income (The World Bank, 2019). The capital problems farmers face in the country (especially smallholder farmers) can be their inability to access loans from banks(FAO, 2012). Microfinance credit plays an essential role in agricultural productivity. It makes farming much more effortless and manageable because inputs can be bought at the beginning of the production cycle(Masuku, 2009). Shabangu (2016) observed that smallholder farmers need to access agricultural credit to increase their agricultural production. Safodien (2013) reported that smallholder farmers in the Lubombo region have less agricultural productivity because they lack the capital to purchase inputs like seed and fertilizers and rent machinery for land management. The farmers mentioned how much they wanted to practice agriculture to improve their welfare and income, but they were not capable of financial limitations (Safodien, 2013).

Microfinance is regarded as one of the most successful poverty reduction tools, and it is also seen as a proposal to provide financial services to the low-income population and seen as a strategy for empowering smallholder farmers (Hidalgo-Celarie et al., 2005). From the findings of FinScope Swaziland (2011), the government of Eswatini, together with many sector participants, views the microfinance sector as a poverty alleviation tool and also allows low-income earners to also mobilize savings and access to credit, amongst other financial services. FinScope Swaziland (2011) viewed the microfinance sector of Eswatini in terms of population, capitalism, sophistication, and depth, as still in its infancy. This implied a pressing need to expand the sector and strengthen the sector's capacity to position microfinance for chances to join with commercial banks in order to expand financial services especially in rural areas.

Shongwe et al. (2017) discussed the challenges smallholder farmers go through with the lack of agricultural finance. Smallholder farmers struggle to finance their agricultural production due to high production costs from ever-increasing agricultural input prices. Lack of capital and agrarian inputs by smallholder farmers is one of the major factors attributed to the decline of agricultural production in the country(FAO, 2012). Accessibility to agricultural credit and participation of smallholder farmers in microfinance credit have significant productive income gains (Owuor, 2009; Shongwe et al., 2017). Therefore, the study seeks to help policymakers understand the significance of microfinance intervention and service delivery for smallholder farmers in Eswatini.

1.3 The Problem Statement

Eswatini is facing a decline in smallholder farm productivity and production, despite the extensive farming experience of the smallholder farmers (Shabangu, 2016). The Lubombo region, which is regarded as the poorest in the country and hardest hit by climate change-induced weather, is characterized mostly by recurrent years of excessive droughts and death of livestock, worsening the region's living conditions and poverty levels. Given the challenges faced by the country, primarily the Lubombo region, agriculture (smallholder farming) is viewed as an essential aspect of reducing poverty, unemployment and increase food security. Therefore, it is assumed that microfinance for agricultural activities would play a crucial role in guaranteeing food security, providing employment, and reducing poverty levels. This study, therefore, seeks to map the agriculture smallholder microfinance services delivered to the smallholders and how they contribute to income and productivity with better standards of living.

Improving access to microfinance services to smallholder farmers helps the farmers with the capital they need to improve their enterprises. The main problem faced by microfinance beneficiaries is failing to self-sustain after microfinance inclusion. The study seeks to determine the impact of microfinance on the incomes and productivity of smallholder farmers before and after microfinance inclusion.

While literature has shown a positive co-relationship between access and availability of finance to increased productivity and income. Few research from scholars like (Nouman et al., 2013; Reyes et al., 2012; Munyambonera et al., 2014; Mavimbela et al., 2010; Adu-Gyamfi & Ampofo, 2014; Dlamini & Mohammed, 2018; Iderawumi,2016) exists that confirms or reject this, and the findings of these investigations are very controversial. To date, no empirical research has been conducted in the country to evaluate and assess the contributions of microfinance towards the improvement of productivity and incomes for smallholder farmers. It is, therefore, in this context that this study situates itself. This study is interested in understanding the contributions of microfinance credit facilities towards improved productivity and incomes for smallholder farmers in the Lubombo region of Eswatini.

1.4 Research Questions
Following the research problem, the researcher formulated the following research questions for the study:

1. Does access and availability of microfinance services enhance income and the productivity of smallholder farmers?
2. Do smallholder farmers manage to repay their microfinance credit?
3. What factors influence the credit repayment ability of smallholder farmers in the study area?
4. What challenges are faced by microfinance clients inhibiting the success of smallholder farming and the commercialization of their agricultural produce?
5. What could be done to promote and ensure sustained growth of smallholder farmers, especially microfinance beneficiaries?

1.5 Aim(s) and Objectives of the Study
Aim(s)

This study seeks to understand the contributions of microfinance credit facilities towards improved productivity and incomes for smallholder farmers in the Lubombo region of Eswatini

to develop informed policy recommendations that can be used to promote sustained growth smallholder farmer-beneficiaries of microfinance.

1.6 Specific Objectives
The specific objectives of the study are:

1. To identify the microfinance institutions which operate in the country and the types of services that are provided
2. To assess the impact of microfinance services on the smallholder" farmers' incomes and productivity.
3. To assess the levels of the microfinance credit repayments and determinants among the smallholder farmers in the study area.
4. To assess the challenges faced by microfinance clients inhibiting the success of smallholder farmers.

1.7 Hypothesis
It may be hypothesized that:

- The microfinance credit did not make a significant improvement/impact on the income and productivity of the smallholder farmers
- Socio-economic and demographic factors do not positively influence the credit repayment ability of the smallholder farmers

1.8 Significance of the study
The current state of smallholder agriculture in the Kingdom is at a fork in the road, as productivity in the sector is declining and putting household and national food security at risk (FAO, 2012). Low agricultural productivity and low incomes have been a norm for smallholder farmers. Lack of self–financing and lack of access to capital has been considered the major contributing factors to the increase of food insecurity and poverty levels. Previous studies concluded that microfinance contributes significantly to the development of the rural farming sector (Munyoro & Chirimba, 2017).

Kiiru and Mburu (2007), Mosley (1997) and Sharma (2000) reviewed the impacts of microfinance on beneficiaries of microfinance. Their findings show a positive impact and relevance of microfinance on beneficiaries. Their research argues that microfinance is overvalued because it does not help the poorest of the poor as frequently claimed, owing to the fact that it does not reach them. Coleman (2002), in his paper of beneficiaries and amounts benefited from microfinance in Thailand, noted that many poor beneficiaries, especially

women dropped out of the borrowing project, citing that the loan amounts were too little to make any positive impact on their income.

The findings of these studies showed that microfinance could be relevant and prosperous to the borrowers, sustaining households, empowering women and improving the welfare of children but can also be detrimental, making borrowers worse off in the long run. Therefore, an important question is raised, can microfinance increase productivity and increase or sustain borrowers' incomes after intervention? What are the challenges that microfinance beneficiaries face that inhibit their success? Therefore, the need to assess the effects of microfinance on smallholders is whether they have positive or negative impacts on the incomes and productivity of smallholder farmers. The study sought to uncover challenges faced by the beneficiaries and provide lasting solutions.

There is no scientific research that was done to assess the effect of microfinance services on smallholder" farmers' incomes and productivity in the country. This study will assist policymakers in identifying an adequate financial system, in addition to contributing to the understanding of how involvement in microfinance services might improve the lives of smallholder "farmers." This would enhance smallholder" farmers' access to financial services including credit, savings and insurance, potentially increasing their income and agricultural production. Ledgerwood (2000) explained the importance of conducting impact assessment studies as it provided MFIs with a much better understanding of increased financial inclusion and the importance of continuous investment in agriculture.

The study results and informed policy recommendations may provide solutions to existing problems in the agricultural microfinance sector in the country. If the government and the microfinance institutions adopt, poverty will be tackled with smallholder farming and the availability of microfinance to potential borrowers in Eswatini. With the help of the findings from this study, The Financial Regulatory Authority will be able to strengthen its capacity to deal with unregistered lenders, particularly those that abuse clients by charging excessively high interest rates.

1.9 Coverage of the study
The study was limited to smallholder sugar cane and maize farmers in the Lubombo region. The farmers were both beneficiaries of microfinance from FINCORP and Inhlanyelo Fund and non-beneficiaries of microfinance in the Kingdom of Eswatini. The study specifically focuses on the effects of microfinance services on smallholder farmers' incomes and productivity,

small farmers' access to microfinance, the use of credit, credit repayment rate and sustainability after the intervention.

1.10 Chapter arrangement of the dissertation

Chapter one of the study consisted of the introduction, problem statement, research questions, research objectives, hypotheses and significance of the study. Chapter two focused on the literature review for the study. Chapter three presented the research methodology. Chapter four presented the results and discussion of the analyses of the study, while chapter five focused on the summary, conclusions and recommendations of the study.

CHAPTER 2

LITERATURE REVIEW FOR THE STUDY

2.1 Introduction

Smallholder agriculture is widely practised in Eswatini and is a crucial lifeline for Eswatini's majority of the rural population. Agricultural production is declining in the country, which can be attributed to harsh weather conditions, lack of farming inputs and lack of water (SADP, 2012). With the exclusion from formal financial sectors, smallholder farmers have nowhere to turn to for their financial needs to improve the already deteriorated productivity. Only microfinance is their hope. Dlamini and Mohammed (2018) suggested that more efforts was to be made in adopting policy measures that would offer more wide-ranging financial services to smallholder farmers, if agriculture was to increase smallholder farmers' incomes and transform their productivity and the rural economy.

The conceptual framework, theoretical framework, the background of microfinance, its general overview in the country, smallholder agriculture, factors influencing the use of credit by smallholder farmers, determinants of access to credit of smallholder farmers and credit repayment rate of smallholders in the country were the sub-topics that were discussed in the literature review.

2.2 The Role of Microfinance On Smallholder Farmers' Incomes And Productivity – A Conceptual Framework

The conceptual framework assisted in exploring and discussing the effects of microfinance on smallholder farmers' incomes and productivity compared to their counterparts who do not receive microfinance services. The components of the conceptual framework were: smallholder farmers, socio-economic factors, institutional factors, beneficiaries, non-beneficiaries, input and technology, microfinance services and expected outcome.

The conceptual framework illustrated that smallholder farmers would have access to microfinance services with limited services in rural areas while some will not. Those who will get access to microfinance services were expected to change their social and economic statuses positively. It also illustrated that smallholder farmers' socio-economic factors coupled with institutional microfinance factors were the key factors that enable microfinance inclusion to farmers. Beneficiaries of microfinance were expected to participate fully with commercial smallholders than non-beneficiaries. Successfully obtaining credit indirectly puts one into debt.

With access to microfinance services, the conceptual framework also showed that the productivity of beneficiaries was anticipated to increase. The increase in productivity will be triggered by timely access to high-quality inputs and heavy machinery for traction and post-harvest purposes. Microfinance recipients were supposed to have an easier time reaching markets than non-beneficiaries since they would have transportation money and would be able to engage in the MFI's production and marketing skills as part of the inclusion package. Microfinance is a powerful empowerment tool; hence this framework shows that it will enable its beneficiaries to have access to savings, credit, social capital, insurance and extension services. These services will consequently increase the farmers' incomes and productivity, gain them access to formal health care institutions, adult literacy programs, improved commercialization, asset accumulation, high social status and farming investments

Figure 1: Conceptual Framework of the Study

Socio-economic factors

Gender   Monthly income

Position in the household   Farming experience

Age   Source of income

Institutional Factors

Loan amount/percentage   Land tenure

Size of land   Type of production

Market access   Experience

Smallholder farmers

Beneficiaries

Non-beneficiaries

Microfinance services

Savings   Insurance

Credit   Social capital

Extension services

Input use and technology

LOW LEVELS OF INPUTS USED:

Fertilisers

Seeds

Pesticides

Input use and technology

HIGH LEVELS OF INPUTS USED:

Fertilisers   Pesticides

High quality seeds   Herbicides

HIGH LEVELS OF TECHNOLOGY USED:

Tractor   Harvester

Planter

Outcome

Higher incomes

Enhanced productivity

Proper health care institutions

Improved commercialisation

Asset accumulation

High social status

Outcome

Low farm productivity

Low incomes

Less commercialisation

Rare asset accumulation

2.3 The Theoretical Framework

The theoretical reflection of this study was based on the theories of financial inclusion beneficiary borrowed from Peter Ozili. Ozili (2020) was one of the first to note the scarcity of financial inclusion theories in policy and academic literature. Ozili (2020) then presented three types of financial inclusion theories: financial inclusion beneficiaries, financial inclusion funding and theories, and financial inclusion delivery. The vulnerable group theory of financial inclusion under the section of theories of financial inclusion beneficiary was used to establish the relationship between smallholder farming and microfinance inclusion. It is essential to learn the theoretical framework to extend the scope of financial inclusion of smallholder farmers to financial institutions and to understand the role of financial inclusion in farmers' income levels and productiveness. Therefore, the study adopted the vulnerable group theory of financial inclusion by Ozili. The contribution of microfinance inclusion to smallholder farmers' incomes and productivity was also discussed, relevant to previous studies. The study presented the significance of microfinance inclusion with existing literature as to why microfinance is regarded as a poverty alleviating tool to smallholder farmers, especially in rural areas

As described by Newman et al. (2017), the existence of poverty continuously causes inequality amongst people. Addressing the inequality issues, microfinance then provided small loans to poor entrepreneurs to bridge the gap amongst the poor and affording entrepreneurs. Microfinance is rapidly growing towards the primary goal of financial inclusion and extending outreach to excluded social groups(Singh & Yadav, 2012). Financial inclusion, as defined by El-Zoghbi and Gähwiler (2013), is the situation in which all individuals and enterprises may access and use a range of suitable financial services supplied by institutions authorized to do so. Financial inclusion calls for better outreach, proper products and services and consumer trust (Staschen & Nelson, 2013).

The vulnerable group theory of financial inclusion, according to Ozili (2020), is a development instrument targeted at alleviating poverty among low-income earners who are financially excluded from formal financial institutions. Ozili (2020) suggested that a country's financial operations or programs should be directed toward the most vulnerable members of society, such as the poor, young people, women, and the elderly, because they are the ones who suffer the most from economic hardships and crises. Bringing these citizens into the financial industry to help them get out of poverty makes sense. Dixon et al. (2007) summarized the importance of financial inclusion by noting that access to financial markets, particularly microfinance,

reduces vulnerability and enables impoverished households to transition from day-to-day survival to long-term planning.

The vulnerable group theory of financial inclusion which the study adopted is pertinent to microfinance since its mandate is to provide loans, savings, and other financial services to the poor, which microfinance also provides. The government of Eswatini, like that of other African countries, recognized the critical significance of financial inclusion in reducing poverty and promoting inclusive economic growth. The Central Bank of Eswatini (2019) also noticed a positive significance of financial inclusion to the economic growth in a way that the regulatory environment was roped in to enable initiatives that drive financial inclusion. The Ministry of Finance (2017) continued to explain that financial inclusion helps the poor in maintaining their livelihoods and improving their living conditions by allowing them to stretch their modest, inconsistent, and unpredictable incomes to cover expenses and obtaining investment possibilities.

Acknowledging the enormous role played by the agriculture sector to economic development in the country, the government of Eswatini implemented the Financial Inclusion Strategy, which aims to promote appropriate and accessible financial services and products such as E-money and value chain finance to help smallholder farmers get timely access to farm inputs and receipts from the sale of their goods (Ministry of Finance, 2017).The Central Bank of Eswatini (2019) stated that providing financial services to disadvantaged populations or low-income earners at a reasonable rate remains a global concern, particularly in Eswatini. Therefore, addressing financial exclusion by the CBE remains fundamental to the social agenda of reducing income inequality and poverty(The Central Bank of Eswatini, 2019).

Financial inclusion for smallholder agricultural producers was an important component of the poverty reduction approach in most developing nations, according to (Vishwanatha & Eularie 2018). According to Mago and Hofisi (2014) smallholder farmers' ability to use financial services is one of many techniques aimed at increasing smallholders' incomes and productivity, with the ultimate goal of poverty reduction. Recent innovations in low-income financial services, such as those provided in Eswatini, have aided the resilience of vulnerable and marginalized populations. The government of Eswatini's key role in providing financial inclusion to stakeholders is based on the concept that financial inclusion can have a direct influence on smallholder farmers' welfare at the microeconomic or household level. Therefore, the farmers' interests might be influenced by lower transaction costs, which would allow them

to better manage risk, use capital for productive purposes, and support the accumulation of wealth over time (Ministry of Finance, 2017).

In Rwanda, financial inclusion of vulnerables was their main priority as MFI's have merged responding to the mainstream formal financial system to reach smallholder farmers who were seen as un-bankable clients from commercial banks(Vishwanatha & Eularie, 2018). Since financial inclusion involves the accessibility to the financial system at an affordable cost to vulnerable groups in society. Shankar (2013) mentioned that the government of Eswatini was working closely with the International Fund for Agricultural Development (IFAD) and other financial institutions to expand access to financial services and markets for rural small and medium businesses.

In India, efforts were made to establish innovative financial delivery systems for low-income earners through a partnership between the government, financial institutions, and non-governmental organizations (NGOs)(Barman et al., 2009). They further elaborated on that that the approaches were created to combine the security and dependability of formal financing with the convenience and flexibility of legal financing.

2.4 Definition of Financial Inclusion and Its Importance

Financial inclusion, according to the Ministry of Finance (2017) is defined as the provision of financial services and products to all segments of society in a way that is available, accessible, and affordable to all, and plays a critical role in reducing poverty and contributing to inclusive economic growth. Ray et al. (2014) described financial inclusion as the process of assuring vulnerable groups, such as weaker parts and low-income groups, affordable access to financial services and timely, enough credit when they are needed.

Financial inclusion is an essential development tool, especially for developing countries to reduce poverty and achieve inclusive economic growth. The whole economy benefits from balanced financial inclusion through reducing financial inequality, giving the less fortunate a chance to participate in financial markets to improve their income levels. Shankar (2013) explained the importance of microfinance in five ways:

- That the financially excluded entities were exposed to safe-keeping attendant problems associated with using cash only

- The financially excluded may be deprived of saving incentives due to a lack of access to safe and formal saving options.

- Due to a shortage of loan products, they were unable to invest and considerably enhance their living conditions.

- Due to a shortage of remittance products, many transactions may be inconvenient and risky for the financially excluded.

- The absence of insurance products entailed a lack of risk management and wealth smoothing options.

2.5 The Minimalist-Integrated Approaches to Microfinance

The study also explored the 'minimalist-integrated nexus' as part of the theoretical framework. While many refer to microfinance as microcredit or use the terms interchangeably, the two words have different meanings. (Mago & Hofisi, 2016)distinguished the two words by stating that microfinance involved financial inclusion, whereas microcredit assumed that credit was the sole missing piece in the poor's development. The study borrowed the 'Minimalist – Integrated Approaches' used by (Ledgerwood, 2000) to establish the effects of microfinance existing on small farmers (beneficiaries of microfinance) incomes and productivity.

As discussed by(Ledgerwood, 2000), the minimalist method is based on the assumption that credit is the sole lacking component for poor people's economic advancement. Ledgerwood (2000) went on to say that minimalist programs recognize that the poor require more development and social services, but that these services are provided by other agencies. He further mentioned that minimalists only offered financial intermediation to their clients but at times would offer limited social intermediation. This approach benefits the MFI more because it provides a great advantage of having a single focus (provision of credit only) which is more cost-effective with time to the MFI. Mago and Hofisi (2014) in their paper, discussed the 'minimalist - integrated' nexus in conceptualizing microfinance for practical smallholder farming in Africa. They discussed that smallholder farmers' failure was due to a minimalist approach that focused primarily on providing agricultural financial services only.

Minimalists provide 'credit' only to smallholder farmers, assuming that the smallholder farmers receive the remaining services from other agents. This shows that financial intermediation is not the only thing needed to improve smallholder farmers. Smallholder farmers were found to be operating in the lines of peasantry agriculture instead of commercialization, which has led to the dependency state whereby smallholders depend on credit offered and cannot self-sustain (Mago & Hofisi, 2014). They went on to say that there was a lack of financial intermediation, social intermediation, enterprise development services,

and social services for smallholder farmers in Africa. Hence, their study discouraged the use of the minimalist approach to smallholder farming.

The integrated approach, on the other hand, highlighted the need of delivering a range of development-oriented services to the poor in order to address the structural causes of poverty (Magboul, 2016). According to (K. N. Kumar, 2017), the integrated approach took a more comprehensive view of the client and provided a wide variety of 'microfinance plus' services such as financial and social intermediation. The integrated strategy included business development services such as marketing analysis, business and production training, and social services such as health and nutrition, education, adult literacy training, civil and human rights awareness-raising, and many others that were also part of the integrated approach mentioned (Magboul, 2016).

Donors were involved in the microfinance cycle to help sustain the MFI's. They aimed for financial inclusion as a means of poverty alleviation and economic development that can help make the financial ecosystem work better and be more inclusive (Mayada & Gähwiler, 2013) approach is more costly to the MFI side since non-financial services are rarely financially sustainable. It is suitable for donor-funded MFI's (Ledgerwood, 2000).

The integrated approach was also embraced as part of the theoretical framework, owing to the fact that it takes a more comprehensive view of the client in order to reach its full potential. Furthermore, the study preferred microfinance to microcredit since the former involved the whole bracket of financial inclusion, which is supported by the study's theory, whereas the latter assumed that credit was the only important missing piece needed for the development of the poor. MFIs that use an integrated approach may not be able to provide all four services (financial and social intermediation, enterprise development services, and social services), but they can take advantage of their clients' proximity and provide the services that they believe are most needed, or that they have a comparative advantage in delivering. This intervention might work well with smallholder farmers since they needed follow-up services after credit provision to realize their full potential and be self-reliant.

2.6 The Background of Microfinance

Micro finance is a type of banking service provided to unemployed, low-income individuals and or groups who would otherwise have no access to traditional financial institutions, according to (Kagan, 2019). Kagan (2019)explained that the purpose of microfinance was to provide disadvantaged people with the means to eventually become self-sufficient and it allowed borrowers to take out affordable small loans in a safe and regular manner.

Microfinance, according to (Adu-Gyamfi & Ampofo, 2014) microfinance is a development tool that uses character-based techniques rather than collateral to reach low-income people. It meant that MFIs gave out short-term loans in exchange for collateral, such as group guarantors or mandatory deposits.

The concept of microfinance is not new as earlier in the 1970s it ran as microcredit projects (CGAP, 2003). In 1961, according to the (CGAP, 2003), Joseph Blatchford raised $90 000 from private companies in Venezuela to form the ACCION International. Blatchford had initially used the funding from the project to build schools and water systems but later converted the funding to a microcredit project in 1973. Ai Whittaker and David Bussau also founded an MFI named Opportunity International, which targeted microentrepreneurs across Southeast Asia and South America (CGAP, 2003) noting the high poverty rate in Bangladesh, Professor Muhammad Yunus, an economics Professor founded the Grameen System in 1977 where he was the loan guarantor of the poor in Jobra. Professor Yunus offered small loans to the poor using group savings as a form of collateral. He used the principle of joint responsibility, which encourages the spirit of solidarity among members of the beneficiary groups. In 1983 the Grameen Bank was born, and throughout the 1980's it added 100 new branches every year. Since its inception, the Grameen Bank granted $3.9 billion which $3.6 billion repaid at a repayment rate of 98%. The Grameen Bank today has 1181 branches, works in 42127 villages and has a total staff of 11777. Lieberman and DiLeo (2020) recorded that internationally, 200 million people receive assistance from MFIs around the world, with the majority of consumers living in underdeveloped nations. Unlike at the beginning, where MFIs were run by NGO's, today most of these institutions are commercial and regulated by the government (Lieberman & DiLeo, 2020).

Munyambonera et al. (2014) expressed that poor countries' financial markets, particularly those in Sub-Saharan Africa, lacked depth, were very inefficient, concentrated in urban areas, and were frequently dominated by a few foreign-owned commercial banks. While the FinScope Swaziland (2011) survey differed by mentioning that microfinance sector in Southern Africa was fast developing due to the Donor Funding Development Community, which was the main driver of the business in Africa. It pushed the commercialization essential for the microfinance sector, according to the(FinScope Swaziland, 2011)

Microcredit was typically supplied through MFIs in Eswatini, along with additional non-financial services such as business development training, consulting services, and extension

activities.The microfinance sector, according to the Government of Eswatini, is still in its infancy in terms of number, capitalization, depth, and sophistication; the government then noted an urgent need to broaden the sector (FinScope Swaziland, 2011). It also viewed the microfinance sector as a tool for poverty alleviation, a way for low-income earners to access credit and mobilize savings from the MFI's (FinScope Swaziland, 2011).Thom et al. (2014) reported that the adult population of Eswatini is about 531 813 people, of which more than 80% earn below E2000 per month equivalent to $131.06 or have no regular income at all. The vulnerability of the low-income earners to financial services has heavy implications on the demand of financial services, especially inclusion to microfinance to accommodate the low-income earners (Thom et al., 2014). The financial inclusion statistics showed a skewed figure with around half of the Swati population formally served, 13% used informal financial services and 37% excluded (Thom et al., 2014).

2.7 The General Overview of The Microfinance Sector In Eswatini

The Eswatini government recognized the enormous role played by the financial services sector in contributing to the country's total economic growth through the provision of jobs and, most importantly, bringing financial services closer to the people. The paper on Agriculture Finance Intervention in the Kingdom of Eswatini Myeni (2018) discussed that most small-scale farmers and businesses in Eswatini did not seek loans from banks but rather depended on informal mechanisms: friends, family and moneylenders. The FinScope Swaziland (2011) pointed out the significant role MFIs played in the country in extending financial services through savings, loans and other non-financial services to the excluded population of Eswatini.

Through the Ministry of Finance, the government of Eswatini in 2010 established the Micro Finance Unit (MFU) after realizing the need for financial inclusion to the poor and struggling microentrepreneurs (FinScope Swaziland, 2011). The MFU then implemented the IFAD-supported Rural Finance and Enterprise Development Programme (RFEDP), which helps rural residents and small enterprises gain access to financial services (Ministry of Finance, 2017). The MFU's mandate was to help the country's microfinance sector grow and thrive, while also allowing the industry to successfully contribute to the development of rural communities (FinScope Swaziland, 2011). According to the International Fund for Agricultural Development (IFAD), the MFU played an important role in researching and lobbying for improvements in the regulatory advisory framework for microfinance providers in Eswatini. (IFAD, 2007) continued to express that the MFU contributed to the development of the microfinance sector, and it aimed to advance and become the centre of financial inclusion in

Eswatini. The target clientele of the microfinance sector are micro-entrepreneurs, and similarly to the Grameen Bank principles, the gender focus of these MFI's is primarily on women (IFAD, 2007).

The activities of MFIs in the Kingdom, however, have been hampered by changing macroeconomic conditions, which necessitate their reform in order to remain profitable and sustainable. Other challenges are governance, profitability, strategy, sustainability, operational planning, efficiency, risk management, asset quality, internal controls, credit methodologies, internal audit and MIS functionality (FinScope Swaziland, 2011; MFU, 2016). According to the MFU (2016) report, microfinance in Eswatini has remained at an early stage of development for a long time due to many internal and external problems and shortcomings in the sector: "The formal microfinance product offering has never been sufficiently robust to meet client demand" (MFU, 2016). The Government of Eswatini, along with many sector players, considered the microfinance sector as an instrument to alleviate poverty, allowing low-income earners to mobilize services and access to credit, among other financial services, according to the findings of the (FinScope Swaziland, 2011). While noted earlier that in terms of number, capitalization, depth, and sophistication, the country's microfinance sector may be in its infancy. It meant that the sector needed to be expanded and capability built up in order to position microfinance institutions for linkage opportunities with commercial banks in order to develop financial services in the country.

The MFU (2016) reported two regulatory authorities for financial service providers in Eswatini: The Central Bank of Eswatini which is responsible for the regulation of banks and the Financial Services Regulatory Authority (FSRA) regulates non-financial institutions.

The existing microfinance providers in Eswatini are categorized in the following ways by the MFU:

- Development Finance Institutions (DFI's)
- Credit Institutions (CI's)
- Swaziland Association of Savings and Credit Cooperatives (SASCCO's)
- Non-Governmental Organizations (NGO's)/Non-profits/Trusts
- Moneylender Institutions/Individuals
- Government-funded entities
- Other microfinance providers

2.8 Smallholder Agriculture in Eswatini

The majority of Eswatini's population survives on subsistence agriculture, and agriculture is a major supplier to many of the country's manufacturing industries, especially those that use sugar and pulp(Alene et al., 2013). The country categorised as one of the poorest, is clouded by a high unemployment rate at 23% and youth unemployment rate at 40% (Ministry of Economic Planning and Development, 2019). The Government of Eswatini's poverty alleviation strategy includes recognizing the role of smallholder agricultural development in contributing to the national economy by subsidizing farming inputs for struggling smallholder farmers and contributing to MFI's where smallholder farmers seek financial assistance.

The agricultural landscape of Eswatini, like that of many other African countries, is characterized by slow growth, minimal machinery utilization, and low factor productivity. Although the economy has been entirely on the decline over time, the agriculture sector remains the backbone of the Swati economy. The contribution of agriculture to GDP has gradually decreased over the last decade attributed to so many underlying problems in the sector, including recurring droughts, erratic weather conditions and ravages of HIV/AIDS. The direct contribution of agriculture to GDP decreased from 9.3% in 2009 to 8.7% in 2019, simultaneously decreasing the indirect contribution through industrial manufacturing reaching 33.8% in 2019 from 39.9% in 2009. These revenues are derived mainly from sugar, citrus fruits, edible concentrate, wood pulp and pineapple exports(The World Bank, 2019). The government of Eswatini was working very hard to increase production in the agricultural sector through substantial efforts to increase investments. Still, these investments labour no fruits since production is on a declining trend. Eswatini agriculture faces enormous development changes including low productivity, failing food production, failing food production to keep pace with the increasing population and the rising food insecurity problem, especially in the rural area(The World Bank, 2011) .

2.9 Land Tenure for Agricultural Production
In Eswatini, agriculture is dualistic, owing to disparities in land ownership systems. Swazi Nation Land (SNL) and Title Deed Land make up Eswatini's dual land tenure system (TDL). TDL accounts for around 40% of the country's land area; it is mostly utilized for commercial agriculture and is characterized by capital-intensive cash crop cultivation, notably sugar cane and citrus, as well as huge farms (Mavimbela et al., 2010; The World Bank, 2011).

The remaining 60% of the country's land is designated as Swazi Nation Land (SNL), which is administered by local chiefs and held in trust for the Swazi nation by the King (the Crown). This land features mainly small-scale agriculture dominated by maize(FAO, 2017; The World Bank, 2011). According to (Alene et al., 2013), 70% of the Swati community lives in rural areas on SNL as smallholder farmers who rely on subsistence agriculture to survive.

2.10 Characteristics of Smallholder Farmers

Sparsely distributed smallholder farms characterize the traditional landholding sector on SNL coupled with small landholdings averaging about 1.94 ha and crop production, primarily for household consumption and selling if there is a surplus(FAO, 2017; Terry & Ogg, 2017). Smallholder farmers mainly sell their produce through informal commodity markets, and a majority of crops grown by smallholder farmers are rain-fed maize, vegetables and some cotton (FAO, 2017). They further stated that women were the main participants and labour of the smallholder agricultural production since men migrated in search of employment. The rainfed agricultural produce is subjected to adverse weather conditions like drought. According to (Alene et al., 2013) the smallholder agriculture sector is the most important contributor to the bulk of the rural population's livelihoods.

2.11 Constraints Faced by Smallholder Farmers and How to Overcome Them

The World Bank (2011)challenges encountered by smallholder farmers in Eswatini and identified three sets of factors that hampered their success. Low productivity and competitiveness, a lack of governmental ability to deliver vital goods and services, and ineffective policy execution and expenditure management are all factors. According to Alene et al. (2013), smallholder farmers' low productivity was due to their employment of traditional methods, which were typically low-input and had restricted access to resources.

The failure to achieve sustained and equitable agricultural growth, according to Alene et al. (2013), was the most significant difficulty encountered by smallholder farmers in Eswatini. They also stated that the ever-increasing Swati population led to population pressure, which eventually decreased the sizes of smallholder farmers' landholdings on Swazi Nation Land. Drought, periodic floods, soil depletion, pests and disease, and the usage of low yielding crops are all difficulties that smallholder farmers face due to their vulnerability. FAO (2012) acknowledged the crucial role of smallholder farmers in agricultural production however mentioned that smallholder farmers did not produce in the way they should till the government intervenes. The government of Eswatini in 2001 established the Swaziland Agricultural

Development Project (SADP) to revitalize the agriculture sector and contribute to the creation of a vibrant commercial sector while focusing on smallholder crop and livestock production, research and extension delivery and smallholder market-oriented agro-business development. *"If you want to tackle poverty, you have to put the smallholder farmers first" Nehru Essomba*, Chief Technical Adviser, SADP**.**

2.12 Sugar cane and Maize Production

The production of sugar is critical to the development of Eswatini's economy due to the enormous role it plays in the economy of the country. The significant contribution to GDP also contributed directly to poverty reduction through the upgradations of rural subsistence farmers who are converted to smallholder commercial farmers and earn some income (Swaziland Sugar Association, 2015).

Sugarcane is the most important cash crop grown in Eswatini, it has been traditionally grown in the Lowveld, but it has now spread to the Lubombo region and the Middleveld. The Swaziland Sugar Association (2015) annual report exclusively explained the significance of sugar cane production to the overall Swati economy. The Swaziland Sugar Association (2015) continued to relate that sugar cane production accounts for 74% of total agricultural output, 35% of full agricultural pay employment, 25% of total industrial wage employment, 13% to GDP and 16% to total export earnings in Eswatini. The current production of sugar is approximately 658 000 tonnes per annum and generates revenue of E4 billion per annum (Swaziland Sugar Association, 2015). Sugarcane is primarily grown on a big scale, but smallholder farmers are active in the industry as well, according to (Maziya, 2019). There is an increase in sugarcane growing in the country that was noticed by (Terry & Ogg, 2017) mainly due to smallholder farmers' expansion. In terms of quantity, there are nine (9) large scale cane growers, 29 medium scale cane growers, and 450 smallholder cane growers, accounting for 77 percent, 22 percent, and 1%, respectively (Sikuka, 2016).

Although smallholder farmers are encouraged to thrive in the cane industry, they face different challenges associated with growth and productivity. Access to inputs is a constraint to smallholder farmers as many do not have timely access to inputs and are made to pay higher prices than larger farms. Changing weather patterns impacts the profitability and livelihoods of small-scale farmers(Swaziland Sugar Association, 2015; Terry & Ogg, 2017). Masuku, 2011) determined that the Eswatini Sugar Association required specific pest and disease control strategies, as well as the implementation of a harvest timetable that smallholder farmers could

more easily work with. He also noted that smallholder farmers lack experience, do not have access to inputs due to high costs and lack business skills that encumber the proper compliance with the mills' requirements.

The Ministry of Agriculture (2016) mentioned that maize cultivation in the Kingdom is widely practised on dry and wet farming as well as grown on both SNL and TDL. The FAO (2012) continued to relate that maize was the most important crop as over 90% of smallholder farmers on SNL produce maize, as well the country's staple food and is used as a metric of food security. According to the National Maize Corporation (2016) National Maize Corporation report of 2016, the area under maize production fell by 47 percent from 2014/15 to 2015/16, resulting in a 59 percent drop in production output, which led to a drop in the country's maize self-sufficiency from 62.2 percent to 25.2 percent during the same period. The reduction was observed even though the government of Eswatini had provided subsidized inputs in the high maize producing areas relates the corporation (National Maize Corporation, 2016). The decline was due to drought, rising prices of purchasing inputs, hiring a tractor, and climate change consequences have pulled some farmers off the production line, forcing them to rely on food help (S. Dlamini et al., 2019).

2.13 Factors Influencing the Use of Credit from Micro-Finance Institutions by Smallholder Farmers

Microfinance institutions critically aimed to improve the incomes and productivity of smallholder farmers by availing needed financial resources. However, its uptake and use are still low in the Southern African region (Mbuba et al., 2018). Microfinance was seen as one of the successful poverty reduction initiatives by (Hidalgo-Celarie et al., 2005), who saw it as a plan to give financial services to the low-income people and as a technique for empowering smallholder farmers. It was considered an influential and relevant factor in improving the rural economy. Munyoro and Chirimba (2017) explained it in a way that it was a crucial factor contributing to the development of the rural farming industry.

In as much as important and rewarding it was, access to credit from MFI's remained a serious challenge to smallholder farmers in many developing countries, which subsequently influences the use of credit. In many developing countries, smallholder farmers faced a significant problem in obtaining loans from microfinance institutions, which eventually had an impact on how they used the credit. However, Were and Miller (2018) differed by mentioning that financial institutions had strong understanding and realized that smallholder farmers had a large outstanding need for loans.

Ledgerwood (2000) categorized agricultural credit for utilization by smallholder farmers' into three different ways:

- Production credit – for seed, pesticides, fertilizer, animal traction/tractor services and credit for field production.
- Commercialization credit – for warehouse credit, fixed-term credit and overdraft facility.
- Transformation credit – utilized for processing purposes and usually by processing companies.

Literacy status was found to be a key determinant of smallholder farmers' favourable credit utilisation by (Ayele & Goshu, 2018). Literate smallholder farmers were assumed to responsibly use microcredit because their academic reasoning was higher than their illiterate counterparts; hence it would be hard to divert funds to other purposes. According to Yostrakul (2018), literacy level directly influenced the poor's lack of reading and writing abilities to utilizing loans for investment activities. People with appropriate financial literacy at the micro-level, according to Widhiyanto et al. (2018), were more likely to get more credit from formal financial institutions, save more, manage risk better, and have premium insurance for their investments. Poor farmers' financial literacy also contributed to inefficient use of credit from agricultural finance markets continued to explain (Widhiyanto et al., 2018).

The results collected by Carranza and Niles (2019), suggested that for many smallholder farmers, especially women, credit was mainly used to obtain food and other health outcomes as compared to on-farm investment. Owuor (2009), explained that with literacy, female gender, communication infrastructure, and the preservation of indigenous group structures as crucial policy intervention elements, microfinance credit participation resulted in considerable increases in productive income.

The household size positively influenced the use of credit by smallholder farmers (Ayele & Goshu, 2018). Larger households most especially with many dependant family members used more credit than smaller households. Ayele and Goshu (2018) went on to say that the size of a landholding was a factor that determined smallholder farmers' utilization of microcredit. Larger farms used more credit because of their larger land and the smaller landholders used less credit, they explained. Smallholder farmers perceiving the loan repayment period not as a good one reduces the credit use of smallholder farmers (Ayele & Goshu, 2018) because the smallholders

do not agree with most of the repayment terms and period hence the less use. Farmers who reside a bit far from the lending institutions use less credit because they access the institutions harder because of the distance concluded (Ayele & Goshu, 2018).Munyambonera et al. (2014) in their study they found out that smallholder farmers used microcredit to purchase seeds and livestock and other agricultural activities.

2.14 Determinants of Smallholder" Farmers' Access to Credit

Collected from literature presented in the study was that low-income earners were denied access to mainstream financial institutions because formal financial institutions disregarded the poor's small informal enterprises, loan requests were too small, and obtaining information from clients was difficult, the client's farm locations were too far away, and visiting the farms took too long due to their remoteness, worse the clients would have no loan security. All this meant that the lending cost would be too high both on the lender and borrower (Ledgerwood, 2000) . These were the daily barriers that low-income earners faced when trying to access mainstream financial institutions.

The most successful means of directly affecting the rural economy in helping to alleviate poverty, according to Adu-Gyamfi and Ampofo (2014), was to provide suitable financial services to the rural poor so that they would access credit from financial markets. Munyambonera et al. (2014) believed the financial inclusion of the poor was a crucial enabler to business start-up, expansion of existing ones, improvement of efficiency and fair competition on the market by the low-income earners. They further mentioned that agricultural credit was the life support that had kept most farming enterprises – through supporting most smallholder farms stability and enhancing productivity.

Microfinance, according to Alam et al. (2020), supplied financial resources to smallholder farmers, mostly for the purchase of primary inputs such as seed, fertilizer, insecticides, and farm equipment. Scholars like (Mago & Hofisi, 2016; MINECOFIN, 2013; Opportunity International, 2013) attributed the low crop production in Africa to inaccessibility to financial services, farming inputs, agricultural training and fair crop markets that optimize crop production and subsequently increase farmers' incomes. Therefore, microfinance was recognized as an effective tool to enhance agricultural productivity (Iderawumi, 2016).

The Government of Eswatini recognized the crucial role smallholder farmers play in the economic and social wellbeing of the country. Dlamini and Mohammed (2018) and the Ministry of Finance (2017) noted that financing to agricultural firms, particularly smallholder

farmers, would be a significant opportunity for growth by creating jobs, enhancing food security, and improving rural livelihoods, according to the report. Dlamini and Mohammed (2018) further discussed that enabling agriculture would enhance the incomes of smallholder farmers and transformed the rural economy. More legislative efforts should be directed toward developing a diverse set of financial services and products for agricultural SMEs, they recommended. Mavimbela et al. (2010) stressed the importance of providing smallholder farmers with flexible and varied lending solutions in order to increase their agricultural production in Eswatini. Mavimbela et al. (2010) therefore, recommended to the involved stakeholders and government to exert more pressure in developing differentiated and numerous financial products and services for smallholders which would increase their incomes as well as improve the rural economy.

In response to this problem, the government of Eswatini implemented a number of policy reforms and development programs in all areas of the economy, with the agriculture sector receiving special attention. The Microfinance Unit, Inhlanyelo Fund, Eswatini Development Financial Corporation (Fincorp), and the Industrial Development Company of Eswatini (EIDC) are among the development programs, each aiming to provide a financing loan product for SMEs, particularly those spurned by commercial banks (Dlamini & Mohammed, 2018).

The IMF, 2012 described Swazi Nation Land (SNL) as land owned by the King but held in trust by chiefs for the settlement of emaSwati. Hence, smallholder farmers on SNL do not have land titles, and commercial banks avoided them because they lacked collateral and have high administrative costs because they tend to borrow modest quantities of money and are dispersed across the country(Kashuliza & Kydd, 1996; Mamba, 2016). Anang et al. (2015) further highlighted the difficulties that smallholder farmers in rural areas faced when seeking credit including seek loans from diverse sources, including rural banks, government-subsidized credit, NGO's, money lenders, friends and family (Anang et al., 2015; Mamba, 2016). Thus, Mamba (2016) then concluded that smallholder farmers in Eswatini relied heavily on informal financial sources and the statutory bank (Ewatini Bank) for agricultural credit.

Abdul-Jalil (2015) described that the institutions mostly created the inaccessibility problem faced by smallholder farmers in financial institutions through their uninviting lending policies, credit restrictions and complicated procedures. Nouman et al. (2013); Reyes et al. (2012) researched about access to credit by smallholders, and their findings revealed that inclusion to credit could positively influence productivity. They went on to say that access to financing

accelerated agricultural modernization and economic development by creating and maintaining an appropriate supply of inputs, therefore enhancing farm production efficiency.

According to Robinson (2001), having access to microfinance services improved customers' quality of life, increased self-confidence, and diversified their livelihood security measures, resulting in increased income. Microfinance services have a favourable impact on livelihoods, social standing, treatment at home and in the community, living conditions, and consumption standards, resulting in a large increase in ownership of livelihood assets such as cattle, equipment, and land, mentioned (Robinson, 2001). He further revealed that trading activities sponsored by MFIs could assist build new marketing relations and boost traders' income, resulting in reduced migration as a result of higher job prospects and revenue. Microfinance, according to Jote (2018), was a critical component of poverty reduction. Explaining in detail Jote (2018) described that the poor could better manage their risks, accumulate their assets over time, develop microenterprises, and increase their income earning potential thanks to well-organized access and efficient provision of savings, insurance, and credit facilities.

Gender, household income, age, farm capital, enhanced technology adoption, extension contact, farm location, and awareness of lending institutions in the area are all factors impacting smallholder "farmers' access to agricultural financing, according to (Anang et al., 2015). Factors such as the" farmers' income had a positive impact on the accessibility of credit as it was considered a guarantee of the"farmers' ability to pay back the credit, (Kashuliza & Kydd, 1996).

Chisasa (2019) found that the size of a farm played a significant role in accessing credit as it provided the much-needed collateral. Ellertsson (2012) emphasised the importance of property rights as they play a significant role in" households' accessibility to credit. The Vietnamese Government in 1993 started issuing Land Use Certificates ('LUC's) to strengthen property rights to individual rights over the land, which allowed the people to use their 'LUC's as collateral and thus gave households better access to credit.

Credit needs and extension contact were considered favourable influences on smallholder "farmers' access to credit, according to (Chauke et al., 2013). The repayment period also influenced" smallholders' access to credit. Yehuala (2008) explained that the payback time had a significant impact on credit availability to the farmers. Chisasa (2019), from his findings concluded that access to credit by smallholder farmers in South Africa was positively influenced by household income, capital structure and family net worth.

Level of Education

Results from a study conducted by (Sebatta et al., 2014) revealed that credit beneficiaries had a year higher in terms of education than their counterparts. This meant that educated smallholder farmers could read and understand financial markets, which makes it less scary to seek financial assistance. This difference was attributed to the fact that education was considered an empowerment tool. It empowered and instilled confidence in the farmers, allowing them to make prudent financial decisions and approach credit providers with a thorough understanding of the lending terms.

Household Size

Sebatta et al. (2014) noted that households with a larger number of members were the ones who borrowed more than households with fewer members. This is justified because households with more members consume more than households with fewer members, so they turn to borrow to ease the consuming burden in the household. An explanation given by(Diagne & Zeller, 2001) was that households with a bigger number of members tend to have unproductive members who strain the members who bring income to the family. The productive members then tend to resort to credit to balance cash flow in the household.

Age

Anang et al. (2015) stated that years of farming experience of smallholders' influences access to credit positively. This is explained by the fact that older farmers with more years of agricultural experience were assumed to be more educated and less hazardous because they understand how to handle farming operations. Anang et al. (2015), continued to mention that older farmers were more likely to borrow and obtain credit than younger farmers. This was due to the fact that older farmers had a larger social network and therefore higher social capital.

Gender

In rural areas men, mostly have social and political power over women. This makes men have advantageous access to productive resources in rural areas, including credit. Results of a study by Nowakowska-Besada (2016) pointed out that there is a much higher probability of viewing access to credit as a barrier for women-owned firms than their counterpart enterprises owned by men. Most women-led small firms recognise access to credit as a greatest obstacle than small firms led by men.

Household income

Kashuliza and Kydd (1996) found that household income had a detrimental impact on smallholder farmers' access to credit because it was perceived to lowering the probability of being rejected credit. They explained that access to productive resources in rural areas was determined by social, economic, and political power. So, some lenders considered poor households without any of these local factors to be dangerous borrowers.

Extension Contact

Farmers with frequent contact with extension workers have easier access to credit because it was believed that they have more information that will influence the use of credit and repayment on time (Yehuala, 2008).

Distance

Yehuala (2008) found out that a long distance between the location of the farm and that of the credit facility negatively affected borrowers in accessing credit and increased credit default.

2.15 Credit Repayment of Smallholder Farmers

Credit repayment was important and beneficial to both the institutions and borrowers. Financing a smallholder business was a massive risk MFIs took since smallholders did not have any security for their loans. If borrowers did not repay, there would be inadequate funds to maintain the MFI's liquidity position therefore, MFI's loan repayment should be consistent. Poor loan payback, according to (Mago & Hofisi, 2016; Nawai & Shariff, 2013), was the biggest danger to the survival and expansion of microfinance institutions around the world as it could cause the cyclical flow of cash between the MFI and the borrowers to be disrupted.

MFIs must identify and examine loan repayment elements, according to Jote (2018), in order to attain profitability and long-term viability. Jote (2018) continued to encourage MFI's to closely monitor the repayment rates as it would help reduce the dependence of MFIs on government subsidies and donors in the same way assist MFIs to self-sustain.

Yostrakul (2018)investigated the use of social capital as a kind of loan repayment assurance. He mentioned that social capital allowed the poor to access credit and influenced loan repayment behaviours of smallholder farmers. Other scholars like (Griffin, 2009) believed in social capital that it ensures and maintains the sustainability of MFIs through putting pressure on borrowers to repay their loan. Duffy-Tumasz (2009) further explained that group members

exerted force on each other to repay the loans. If one member were unable to repay, their members would be responsible for the shortfall. So, making sure everyone pays in the groups benefits both the MFI and the borrowers. Group lending has a high repayment rate compared to loans extended to individuals (Berhanu, 2005; Oke et al., 2007). Adverse selection and moral hazard challenges were reduced by extending loans to groups, thereby reducing information asymmetry between lenders and borrowers (Berhanu, 2005). Berhanu (2005) went on to say that a joint-liability mechanism of group lending relies on peer pressure to ensure timely loan repayment and higher repayment rates.

Previous studies on credit loan repayment concluded mixed results. Chisasa (2019) and Berhanu (2005) concluded that descriptive characteristics that influenced loan repayment among smallholder farmers were age, gender, total landholding size, cattle ownership, and income from off-farm activities. They further analysed factors including distance from the main road to the farm, contact frequency with extension workers, experience in agricultural extension, credit source, perception of credit benefit, and the respondents' agro ecology influenced credit repayment positively. Derban et al. (2005) divided non-repayment factors into three categories: integral features of borrowers and their enterprises, lending institution characteristics and loan product fit for the borrower, and finally, systematic risk from external sources.

Tsabedze (2005) assessed the financial impact of farmer associations in the Komati Downstream Development Programme (KDDP), an initiative for smallholder farmers in Eswatini. The findings revealed that production levels influenced credit repayment of smallholder farmers in Eswatini positively. Some of the" farmers' associations under KDDP had difficulties paying their yearly credit interest obligations because production levels were low. A comparison was made to assess the credit repayment between two smallholder schemes in Eswatini, Mphetseni scheme and Vuvulane Irrigated Farms (IVF) by (Sithole & Boeren, 1989) . The repayment rate of the smallholder farmers in the Mphetseni project was high compared with off-scheme rates. At Vuvulane Irrigated Farms, the low repayment rate was linked to misunderstandings between management and farmers about the contracts signed when accessing the credit.

Berhanu (2005) stated that animals were essential farm assets that increased farmers' repayment capabilities, and recommended MFIs to finance livestock keepers since they were protected from crop failure and had a source of income from livestock sales. Smallholder farmers' loan

repayment rates were positively influenced by the agro-ecological zone, off-farm activity, and technical help from extension agents, according to(Sileshi et al., 2012).

. The amount of credit issued, age, farming experience with credit use, and degree of education were the primary relevant factors influencing credit payback, according to (Oladeebo & Oladeebo, 2008). They then suggested that loan allocation be prioritized for young and energetic farmers who had yet to invest in technologies that would improve their income and ability to repay loans. They further recommended that adult education be provided to illiterate farmers to enhance their level of understanding, including loan repayment. Berhanu (2005) proposed that credit institutions focus on group lending to boost the chance of credit payback among group members. Non-financial services like as training, basic literacy, and health care were recommended to be included in the packages offered to smallholder farmers as they positively impacted repayment performance (Godquin, 2004).

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

According to Kumar (2011), research is more than just a set of skills. However, it is a way of thinking, critically examining the various everyday aspects of professional work, understanding and formulating guiding principles that govern a specific procedure and developing and testing new theories. The selected area for the study is the Lubombo region, where a significant chunk of the population is engaged in smallholder farming. The study used a cross-sectional design and quantitative approach for data collection and analysis. The study compared the effectiveness of microfinance between two farmer groups: beneficiaries and non-beneficiaries of microfinance.

3.2 The study area and Location of the Study

The Lubombo is the largest region of Eswatini, with a total land area of about 5 947 km^2 with the largest population of about 212 531 (UNDP, 2012). Its location is in the east of the country. Lubombo" region's administrative centre is Siteki, and the region is divided into 11 tinkhundla (constituencies). The" region's boundaries are Manzini Region on the north, Shiselweni Region on the south, Mozambique on the east and South Africa on the west. The Lubombo region has two types of prevailing climates, the semi-arid climate and the desert climate. The region receives 550-850 mm of rainfall annually and cold temperatures of 19°C (UNDP, 2012), making it a very productive area. Below is a map showing the four regions of Eswatini, including the Lubombo region.

Image 1**: The map of Eswatini**

Source: The Ministry of Agriculture Eswatini

The Kingdom of Eswatini is a small landlocked country which almost entirely contained within the northeast corner of South Africa and Mozambique. Poverty, chronic food insecurity, health difficulties, particularly HIV/AIDS, and an often-unpredictable environment are among the challenges that the country faces (Swazi VAC, 2016). Eswatini has around 1.2 million people, most of whom occupy rural farms on Swazi Nation Land. At least 67% of the adults in the country live in rural areas, where farming is a significant vocation. It was observed that only 3% rely on farming as their primary source of income (FinScope Swaziland, 2011). According to Manyatsi and Mhazo (2014), smallholder farming contributes about 11% of the agricultural commodity value due to low productivity (1.2% of GDP). Much of EmaSwati's population is at risk of food insecurity, with 63 percent of the population living below the poverty line. The majority of Eswatini's 1.2 million people rely on subsistence farming for a living, which has been severely hampered by the country's faltering economy and recurrent droughts connected to climate change (Leete et al., 2013). According to the FinScope Swaziland (2011) Consumer Survey, Eswatini's economy is stagnating due to inadequate governance, ongoing social turmoil, and a lack of progress in structural changes. The ineffective regulatory environment continues to stifle the growth of a vibrant private sector.

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The Sustainable Development Goals (SDGs) and the Comprehensive Africa Agriculture Development Programme (CAAP) agenda all recognize poverty as a challenge that every nation must address (Bingen & Mpyisi, 2001). While financial inclusion and the availability of microfinance for small-scale agriculture have been linked with improved agricultural production and sustained livelihoods, access to finance for small-scale farmers has remained a key barrier in sub-Saharan Africa (Mago & Hofisi, 2014). Financial inclusion and microfinance are critical for poverty reduction and economic and social development (Ledgerwood, 2000).

3.3 Research Approach and Paradigm

According to (Chetty, 2016) a research approach is a plan and procedure that span the steps from broad assumptions to detailed methods of data collection, analysis an interpretation. Chilisa and Kawulich (2018) refer to a research paradigm as a way of describing a world view that is informed by philosophical assumptions about the nature of social reality (ontology), ways of knowing (epistemology) and ethics and value systems (axiology). Ontology normally asks if a single reality exists with the research as described by (Proofed, 2022), while epistemology concerns the validity, parameters and methods of acquiring knowledge. The axiology is the research methodology which includes the process of data collection and analysis (Proofed, 2022). The Proofed (2022) continued to mention common examples of research paradigms including positivism (believe that there is a single reality which is measurable and often use quantitative methods), constructivism (believes that there are multiple realities and rather use qualitative methods). The last is pragmatists (who believe that reality is continually interpreted and renegotiated against the backdrop of new and unpredictable situations, and researchers often combine both positivist and constructivism concepts for this one which uses both qualitative and quantitative methods) explained (Proofed, 2022).

With the above explanation, the study adopted the positivism approach which is based on studying the single reality which differentiates the two farmer groups.

3.4 The research design

The researcher employed a quantitative approach to analyse the effects of microfinance on smallholder farmers' incomes and productivity in the study area, as well as access to and availability of microfinance for smallholder farmers, and the relationship between incomes and productivity. The study used a cross-sectional research design and a quantitative approach by survey research to gain broad and statistical data (descriptive and inferential) insight because it was concerned with effectiveness issues (whether access and availability of microfinance have a direct co-relationship with increased income and productivity). The cross-sectional

design was adopted because it was more economical especially in terms of the research duration. Data from the smallholder farmers were collected at a single point in time and the design allowed comparison between the farmer groups.

3.5 Population of the Research

The population of this study was smallholder farmers of the Lubombo region with a total number of 78 889 (FAO, 2012) farmers and 430 smallholder farmers financed by microfinance. For the study, both beneficiaries and non-beneficiaries of microfinance were used.

3.6 Sample size and Sampling Technique

Because of the nature of the study, two sampling methods were used. Purposive sampling was used to identify the microfinance companies included in the study and stratified random sampling to identify the smallholder farmers selected for the study within the Lubombo region.

The sample of microfinance providers was carefully selected from well-established institutions within the circle of microfinance services providers in Eswatini. Three microfinance institutions, three micro-lenders, one trust, and fifty-nine operational savings and credit institutions operate in Eswatini (FSDIP, 2017). The sample of microfinance institutions used in the study was determined by a few factors; the age of the institution, the range of microfinance services provided by the institution to smallholder farmers, and the institution's growth measured by its distribution in the country. For this study, two microfinance institutions purposively selected to help measure the effectiveness of microfinance services on the incomes and productivity of smallholder farmers are:

1. **Eswatini Development Finance Corporation (FINCORP)**

To develop small and medium enterprises in the Kingdom, His Majesty King Mswati III, in November 1995, launched FINCORP to help provide access to financial services to thousands of emaSwati. FINCORP offers financial assistance to help start-up businesses and expand existing ones; a large proportion of its clients are smallholder agribusinesses situated chiefly in rural areas. FINCORP diversified its product offering and set up two subsidiary companies, namely First Finance Company, the second leading microlender in the country, and FINSURE Insurance Brokers, which helped broaden the product offering quality in the financial services sector and provided convenience for clients.

2. Inhlanyelo Fund

Inhlanyelo fund is a privately owned institution launched in 1999 to help impoverished emaSwati with microloans to start-up businesses. Inhlanyelo fund provides loan capital to emaSwati owned small, micro and medium projects to promote and support entrepreneurial talent at the grassroots level. Community leadership and existing administrative structures are the key regional intermediaries to get to individual or group micro-lenders. The two microfinance institutions are well established since they have lived in the industry for a longer time (over a decade). They have a huge variety of services and are well distributed around the country, which is why they were chosen for this study.

Since the research is a quantitative study and the target population is finite as 430 (total number of farmers financed by the two selected microfinance institutions for study in the Lubombo area), the formula stated below by Krejcie and Morgan (1970) was used to determine the sample size.

$$S = \frac{X^2 NP \,(1-P)}{d^2 \,(N-1) + X^2 P \,(1-P)}$$

Where:

S = Required Sample size

X = Z value (e.g. 1.96 for 96% confidence level)

N = Population size (total number of smallholder farmers financed by the 2 selected microfinance institutions for study in the Lubombo area)

P = Population proportion (expressed as decimal) (assumed to be 0.5 (50%)

d = Degree of accuracy (5%), expressed as proportion (0.05) is the margin of error

For this study, the population size N is 430 (total number of farmers financed by the two selected microfinance institutions for study in the Lubombo area). Putting the value of N as in the above equation, the sample size was determined as 203. This sample was further distributed proportionately informed by the number of smallholder farmers financed by the two institutions. The two selected microfinance institutions provided detailed information about the number of smallholder farmers in the study area, as shown in the table below. The smallholder

farmers constituting the proportion for each institution were selected randomly through a form of lottery.

$$S = \frac{X^2 NP\,(1-P)}{d^2\,(N-1) + X^2 P\,(1-P)}$$

$$= \frac{1.96^2 \times 430 \times 0.5 \times (1-0.5)}{(0.05^2 \times 429) + (1.96^2 \times 0.5 \times 0.5)}$$

$$= \frac{3.8416 \times 430 \times 0.25}{0.0025 \times 429 + 3.8416 \times 0.25}$$

$$= \frac{412.972}{1.0725 + 0.9604}$$

$$= \frac{412.972}{2.03294}$$

$$= 203.14$$

Sample size = 203

As shown in the table below, the estimated sample has to be proportionally allocated with respect to the total sample size.

Table 1**:** The Sample distribution

Microfinance institution	Number of farmers finance by the institution	Representative	Sample per financial institution
Eswatini Development Finance Corporation (FINCORP)	167	(167/430) x 203=125	125
Inhlanyelo Fund	140	(117/430) x 203=78	78
Non-beneficiaries	123		
Total	430		203

As a result of the unequal distribution of the farmers within the study area among the selected financial institutions, a random sampling technique was used to determine the respective samples in the respective institutions, as shown in the table above. The random sampling technique ensured that each individual in the respective populations of the two financial institutions had an equal chance of being selected to constitute the sample for the study (Dudovskiy, 2019). Equally, therefore, 203 non-microfinance beneficiary smallholder farmers were randomly selected from the list that was obtained from the agricultural extension office for the study area. Unfortunately, during analysis one farmer had difficulties with returning the questionnaire hence, the sample size then was 202 because of that misfortune.

The table below describes the strata of samples and the stratified random sampling formula used to verify the homogeneity of units within each stratum. The sample size of the strata = size of entire population/population size*layer size.

Table 2 Strata Distribution

Group	Number of people in strata	Number of people in a sample
FINCORP	167	203/430*167=79
Inhlanyelo Fund	140	203/430*140=66
Non-beneficiaries	123	203/430*123=58
TOTAL	**430**	**203**

3.7 Data collection instrument

Questionnaires were employed as primary data collecting tools, and they addressed the most important problems as determined by the study goals.

3.7.1 Questionnaire

A questionnaire, according to Aryal (2019), is a research tool that consists of a collection of questions and responses printed or typed in a precise order on a form used to collect specific information from respondents. The study used one questionnaire, which was developed to collect the data. The questionnaire was divided into two parts; the first part were questions directed to sampled microfinance beneficiaries, while the second part was directed to non-beneficiaries of microfinance. It consisted of open and close-ended questions.

3.8 Method of Data collection

The study used quantitative data from the primary data source (survey). A researcher collects primary data from first-hand sources using a variety of approaches such as surveys, interviews, and experiments. Quad (2016) explained that primary data is gathered directly from primary sources with the research topic in mind. The researcher distributed questionnaires as a primary data collection method. Primary data was collected from two smallholder farmer groups (beneficiaries of microfinance and non-beneficiaries).

The researcher emphasized that the interest of this study was not on the microfinance unit but the clients of the microfinance unit. For primary data collection, pre-tested, closed and open-ended questionnaires were used on the two farmer groups (microfinance beneficiaries and non-beneficiaries).

Because of the widespread of covid-19, precautions were taken during data collection to curb the spread of the disease. The precautions included doing telephonic interviews with the farmers after obtaining telephone contacts from extension officers and from the two micro-finance institutions. Respondents were assured confidentiality; a few were hand-delivered and collected after five days of completion.

3.9 Validity and reliability of data collection instrument
Validity in data collection refers to how a researcher has measured what he set out to measure (Kumar, 2011). The reliability of the data and findings is one of the key goals of any research procedure. According to Kumar (2011), reliability deals with consistency, dependability and replicability of the results obtained from research. Rigour in research relates to researchers keeping clear and accurate records and describing the research process in detail to produce a convincing account (Quad, 2016). To increase the reliability of this study, the researcher elaborated on every aspect of the research and kept clear and accurate records according to the research objectives, and this way rigour was addressed.

Questionnaires addressed Conformability whereby the research was reflexive (freedom from bias from the procedures and results). Experts validated the questionnaire in agricultural economics from UNISA; while the reliability of the questionnaire was determined through pre-testing (pilot project). The questionnaire was administered to ten microfinance smallholder farmer-beneficiaries in the study area. Comments from the respondents were used to improve the questions for ease of comprehension during the actual survey. The ten respondents for the pilot study were not included in the main survey for the analysis.

3.10 Data analysis
Cleaning, converting, and modelling data to identify useful information for corporate decision-making is the process of data analysis (Quad, 2016).This study analysed data using the Statistical Package of Social Sciences (SPSS) software version 25, STATA version 17, frequency tables and charts.

Data analysis for objective 1
To identify the microfinance institutions that operate in the country and the types of services provided, descriptive statistics was used to analyse this objective. The descriptive statistics used included frequency and percentage tables of knowledge of MFI products, percentage of loan amounts granted to borrowers, loan waiting period, MFI's operating in Lubombo Region

with number of active subscriptions of borrowers to the different MFI's and reasons of non-participation by non-borrowers.

Data analysis for objective 2

To assess the impact of microfinance services on the smallholder" farmers' incomes and productivity. Descriptive statistics of the smallholder farmers were used, and the Mann Whitney U Test (Wilcoxon Sum Rank Test). The Mann Whitney U test was used to substitute the T-test, which failed due to data not passing assumptions of normality. The Mann-Whitney U test is a non-parametric test used to determine whether two scores from two unrelated samples differ significantly from each other (Crammer & Howitt, 2004).Kratzer and Kato (2013) applied a Mann Whitney U test to determine the differences in income and savings between women members and non-members of MFI's.

The study area is a smallholders' farming community hence having quite uniform characteristics. Therefore 203 non-microfinance beneficiary smallholder farmers were randomly selected from a list obtained from the agricultural extension office for the study area.

The Mann Whitney formula is shown below:

$$U = n_1 n_2 + \frac{n_2(n_2+1)}{2} - \sum_{i=n_1+1}^{n_2} R_i$$

Where; U is the Mann Whitney U test, n_1 and n_2 are the sample sizes of beneficiaries and non-beneficiaries of microfinance, respectively and R_i is the rank of the sample size.

The test assumes that:

➢ The sample size drawn from the population is random.

➢ The independence with the samples and mutual independence is also assumed

➢ Lastly, the ordinal measurement scale is also assumed

Firstly, the researcher applied the Mann Whitney U Test to test for statistically significant differences between the total farm incomes of maize production between beneficiaries and non-beneficiaries. Secondly, it was used to test for statistical differences between the total quantity of maize produced between beneficiaries and non-beneficiaries. Thirdly, the test was applied

to test statistically significant differences in farm machinery and implements owned by both farmer groups. Fourthly, the test was used to test statistical differences in the farmers' home and farm investments. Lastly, the test was applied to test statistical differences in economic and social statuses of both farmer groups (comparison against affordability of family needs, entirely cultivation of their farmlands, and reasons of non-cultivation).

Data analysis for objective 3

To assess the micro finance credit repayments among the beneficiaries', descriptive statistics such as percentages and frequencies were employed; and regarding the determinants of credit repayments among the smallholder farmers in the study area, a fractional regression model was employed for the inferential analysis. However, instead of estimating the probability of being in one bin of a dichotomous variable, the fractional model typically deals with variables that take on all possible values in the unit interval. In this study, it happened that for a particular farmer may not have repaid a cent of the credit to the financial institution (zero repayment). On the contrary, some farmers might have fully repaid all the credit and interest to the financial institution, i.e., 100% or 1/1 repayment. The other farmers may also be at different levels of credit repayments to the financial institutions. One can easily generalize this model to take on values on any other interval by appropriate transformations. Therefore, the logit regression was used as a link function (Wooldridge, 2002). Credit repaid by farmer (Yi) 1=Repayment of $\geq 50\%$; 0=Repayment of $<50\%$.

More specifically,

$$E[y \vee x] = \frac{\exp(x\beta)}{1 + \exp(x\beta)}$$

It immediately becomes clear that this set-up is very similar to the binary logit model, with the difference that the *y* variable can actually take on values in the unit interval. Many of the estimation techniques for the binary logit model, such as non-linear least squares and quasi-MLE, carry over in a natural way, just like heteroskedasticity adjustments and partial effects calculations. The dependent and independent variables are as specified in the table below.

Table 3: Definition of variables used in the empirical model (n=202)

Variables	Type	Description and value	Expected effect
Proportion/fraction of credit repaid by farmer (Yi) 1=Repayment of $\geq$50% 0=Repayment of <50%	Dummy		
Sex (X_1)	Binary	Male = 1, Female = 0	+
Farming experience (X_2)	Continuous	Number (years)	+
Type of land (X_3)	Continuous	TDL=0 SNL=1 Lease landholding=2	+
Tenure Status (X_4)	Nominal	Own =0 Inherited =1 Leased=2 Share cropped in=3	+
Educational level (X_5)	Binary	No formal education=0; Primary=1; Secondary=2; High School=3; Tertiary=4	+
Sufficiency of loan (X_6)	Binary	Yes=1, No=0	-
Receive extension service	Binary	Yes=1, No=0	+
Distance to the market of farm produce (X_7)	Binary	0-5km=0; 6-10km=1; 11-15km=2; 16-20km=3; $\leq$20km=4	-
Source of income (X_8)	Binary	Mainly Family Salary=0; Farming=1; Pension=3; Other=4	+
Amount of credit received (X_9)	Continuous	Number	+
Occupation (X_{10})	Continuous	Number	-
Type of farm production (X_{11})	Nominal	1: maize, 2: sugarcane	+

The STATA computer software version 17 was used for the fractional regression analysis.

Data analysis for objective 4

To assess the challenges faced by microfinance clients inhibiting the success of smallholder farmers, the descriptive statistics analysis was used to summarize and present the results in tables.

3.11 Ethics Consideration

The researcher considered the research values of involuntary participation, anonymity, and protection of respondents from any possible harm that could arise from participating in the study. The researcher is pursuing the study as a fulfilment of a" Masters' Study program and not for any other hidden agenda by the researcher. Respondents were requested to participate in the study voluntarily, and refusal or abstaining from participation will be permitted. The researcher also assured the confidentiality of the information given by the respondents. Since the respondents are in a single region, they will be provided will feedback about the study's findings by the researcher. The researcher also obtained a permission letter from the Department of Agriculture to conduct the survey on smallholder farmers in the study area. Other permission letters were requested and received from the FINCORP and Inhlanyelo Fund with the list of smallholder farmers.

3.12 Summary

The study was conducted in the Lubombo region for both farmer groups (microfinance beneficiaries and non-beneficiaries). The study adopted the positivism paradigm, a cross-sectional research design with a quantitative approach to measure the effectiveness of microfinance services on smallholder farmers. Data analysis for the different objectives was explained along with validity and ethical considerations. The methodology chapter was aligned well and therefore clearly prepared the data for analysis in chapter 4.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the study's findings along with detailed demographic characteristics of the respondents and detailed discussions of the results. The chapter discusses socio-economic characteristics of the respondents, objective 1 findings, objective 2 findings, objective 3 findings, and objective 4 findings. Both SPSS Version 27 and STATA Version 17 were used for the analysis. Mann Whitney U Test, fractional regression model, and descriptive statistics were used for analysis.

4.2 Socio-Economic Characteristics of Sampled Household Heads

This section discussed mainly the farmers at individual and household characteristics using descriptive statistics of types of farmers, gender, age, educational level, marital status, occupation, source of income, monthly income, tenure status, type of land used, and size of farmland of the farmers.

Household heads

Out of a total of 202 farmers, 157 (77.7%) were household heads while 37 (18.3%) were spouses, and 8 (4.0%) were siblings in the household. 59.4% were household head beneficiaries from the total sample size, and 40.6% of household heads were non-beneficiaries.

Table 4: Gender of Household Heads

Variables	Borrowers (120)	Non borrowers (82)	Total (202)
Male	74 (36.6%)	58 (28.7%)	132 (65.3%)
Female	46 (22.8%)	24 (11.9%)	70 (34.7%)

Authors' Survey 2021 (SPSS)

As shown from Table 4 total of 36.6% were male household heads who were beneficiaries of microfinance and 28.7% were male non-beneficiaries. Female household heads who were beneficiaries were 22.8%, and 11.9% of them were non-beneficiaries. Male household heads beneficiaries were more than females because females are mostly supposed to ask for permission from their husbands before borrowing money. Anyelwisye (2007) also showed similar results where most males were micro-credit borrowers.

Table 5: Age of Household Heads

Variables	Borrowers (120)	Non borrowers (82)	Total (202)
18-24	1 (0.5%)	5 (2.5%)	6 (3.0%)
25-34	11 (5.4%)	21 (10.4%)	32 (15.8%)
35-44	34 (16.8%)	12 (5.9%)	46 (22.8%)
45-54	48 (23.8%)	27 (13.4%)	75 (37.1%)
55+	26 (12.9%)	17 (8.4%)	43 (21.3%)

Authors' Survey 2021 (SPSS)

Table 5 shows that the most active age group in both beneficiaries and non-beneficiaries' sector was the 45-54 age group, whereby 23.8% of the household heads were beneficiaries, and 13.4% were non-beneficiaries. Girabi and Mwakanje (2013) also found similar results where most credit beneficiaries in their study were between the ages of 36-50 years were 60.5%. Explaining the results, they mentioned that the 36-50 years consisted of the most economically active population segment. The least was the 18-24 years age group with only six household heads, of which 0.5% were beneficiaries and the remaining 2.5% were non-beneficiaries.

Table 6: Educational level of Household Heads

Variables	Borrowers (120)	Non borrowers (82)	Total (202)
No formal education	9 (4.5%)	3 (1.5%)	12 (5.9%)
Primary school	20 (9.9%)	4 (2.0%)	24 (11.9%)
Secondary school	42 (20.8%)	32 (15.8%)	74 (36.6%)
High school dropout	18 (20.8%)	28 (13.9%)	46 (22.8%)
Tertiary	31 (15.3%)	14 (6.9%)	45 (22.3%)
Missing	0 (.0%)	1 (0.5%)	1 (0.5%)

Authors' Survey 2021 (SPSS)

Table 6 above shows the least respondents did not make it to school 4.5% and 1.5% respectively for borrowers and non-borrowers. It also shows that 9.9% and 2% of borrowers and non—borrowers, respectively only went to primary school and 20.8% of borrowers along with 15.8% of non-borrowers were secondary school dropouts. Respectively the results also show 20.8% and 13.9% of borrowers and non-borrowers were high school dropouts while 15.3% of borrowers and 6.9% of non-borrowers managed to get secondary education. Luyirika (2010)

explained how educated people manage to grasp ideas faster than those with low education which explains why beneficiaries are more educated than non-beneficiaries from the findings.

Table 7: Marital status of Household Heads

Variables	Borrowers (120)	Non borrowers (82)	Total (202)
Single	19 (9.4%)	15 (7.4%)	34 (16.8)
Married	70 (34.7%)	47 (23.3%)	117 (57.9%)
Divorced	6 (3.0%)	3 (1.5%)	9 (4.5%)
Widowed	24 (11.9%)	15 (7.4%)	39 (16.3%)
Separated	1 (0.5%)	2 (1.0%)	3 (1.5%)

Authors' Survey 2021 (SPSS)

Table 7 shows that more beneficiaries are married, 34.7% while 23.3% of non-beneficiaries are married, only 9.4% of beneficiaries are single, and 7.4% of non-beneficiaries are single. Also, higher figures were observed from widowed household heads, whereby 11.9% were beneficiaries, and 7.4% were non-beneficiaries. Only 4.5% of household heads were divorced and 1.5% were separated in total. A majority of the respondents were married which could be attributed to the fact that married couples have more responsibilities including taking care of children and their spouses, hence why they are more economically active.

Table 8: Occupation of Household Heads

Variables	Borrowers (120)	Non borrowers (82)	Total (202)
Full-time farmer	91 (45.3%)	33 (16.4%)	124 (61.7%)
Part-time farmer	12 (6.0%)	28 (13.9%)	40 (19.9%)
Civil servant	11 (5.5%)	6 (3.0%)	17 (8.5%)
Company employee	5 (2.5%)	5 (2.5%)	10 (5.0%)
Unemployed	0 (0.0%)	5 (2.5%)	5 (2.5%)
Self-employed	1 (0.5%)	4 (2.0%)	5 (2.5%)

Authors' Survey 2021 (SPSS)

The results from Table 8 indicate that most beneficiaries (45.3%) were full time farmers and (16.3%) were non-beneficiaries. The results could be attributed to the fact that most beneficiaries make a living through farming which is why they looked for funding to improve

their lives and enterprises. The results also show that 6% and 13.9% of beneficiaries and non-beneficiaries respectively were part time farmers while only (5.5%) of beneficiaries and (3%) of non-beneficiaries were civil servants. Only (2.5%) for both beneficiaries and non-beneficiaries was recorded for company employees, (2.5%) for unemployed non-beneficiaries and (0.5%) of beneficiaries and (2%) of non-beneficiaries were self-employed.

Table 9: The Major Source of Income of Household Heads

Variables	Borrowers (120)	Non borrowers (82)	Total (202)
Salary	13 (6.4%)	26 (12.9%)	39 (19.3%)
Farming	105 (52.0%)	50 (24.8%)	155 (76.7%)
Pension	1 (0.5%)	1 (0.5%)	2 (1.0%)
Other	0 (0.0%)	5 (2.5%)	5 (2.5%)
Missing	1 (0.5%)	0 (0.0%)	1 (0.5%)

Authors' Survey 2021 (SPSS)

Table 9 above shows that a majority of beneficiaries earn an income through farming (52%) compared to (24.8%) of non-beneficiaries. Beneficiaries mostly seek for microfinance services because they want to improve their loves through farming which shows why they have more income in farming than their counterparts. Only (6.4%) and (12.9%) of beneficiaries and non-beneficiaries, respectively earn an income through salaries. A total of 1% from both beneficiaries and non-beneficiaries received an income through pension while only (2.5%) of non-beneficiaries had other unspecified sources of income. The results align with results from (Anyelwisye, 2007) also show that more borrowers (91.3%) earned an income from agriculture compared to non-borrowers who only (76.3%) earned an income from agriculture.

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Table 10: Estimated monthly income of Household Heads

Variables	Borrowers (120)	Non borrowers (82)	Total (202)
Less than R5000	42 (20.8%)	66 (32.7%)	108 (53.5%)
R5101-R10000	22 (10.9%)	14 (6.9%)	36 (17.8%)
R10101-R15000	33 (16.3%)	2 (1.0%)	35 (17.3%)
R15101-R20000	19 (9.4%)	0 (0.0%)	19 (9.4%)
Above R 20000	3 (1.5%)	0 (0.0%)	3 (1.5%)
Missing	1 (0.5%)	0 (0.0%)	1 (0.5%)

Authors' Survey 2021 (SPSS)

Table 10 shows that a borrowers earn more higher income than non-borrowers as only (20.8%) of borrowers earn less then R5000 compared to (32.7%) of non-borrowers. As the income belt increases more borrowers earn more as (10.9%) of borrowers and (6.9%) of non-borrowers earn in between R5101-R10000. About (16.3%) of borrowers and (1%) of non-borrowers earn between R10101-R15000 monthly which shows a huge difference between the farmers and only (9.4%) and (1.5%) of borrowers earn between R15101-R20000 and above R20000 respectively.

Table 11: Tenure Status of Household Heads

Variables	Borrowers (120)	Non borrowers (82)	Total (202)
Own	24 (11.9%)	16 (7.9%)	40 (19.8%)
Inherited	40 (19.8%)	42 (20.8%)	82 (40.6%)
Leased	26 (12.9%)	17 (8.4%)	43 (21.3%)
Share cropped in	29 (14.4%)	7 (3.5%)	36 (17.8%)
Missing	1 (0.5%)	0 (0.0%)	1 (0.5%)

Authors' Survey 2021 (SPSS)

A majority of the household heads as shown by Table 11 cultivate on inherited land (40.6%), whereby 19.8% were beneficiaries and 20.8% were non-beneficiaries. About 11.9% of household heads own the land they use for farming, as well as 7.9% of non-beneficiaries. About 12.9% of beneficiaries were leased land, and 14.4 % of them share the land. While 8.4% of non-beneficiaries were leased land to and 3.5% cultivated on shared land. After finding out that a majority of respondents cultivated on independently owned land, Choga (2013) revealed that

most farmers cultivated on inherited land because customary laws. The customary laws allow widows to inherit land on behalf of their sons from their deceased husbands (Choga, 2013). This practise is mostly common on Swazi Nation Land where a majority of the farmers (48%) cultivate.

Table 12: Type of Land Used by Household Heads

Variables	Borrowers (120)	Non borrowers (82)	Total (202)
Title Deed Land	59 (29.2%)	28 (13.9%)	87 (43.1%)
Swazi Nation Land	54 (26.7%)	43 (21.3%)	97 (48.0%)
Lease Landholding	5 (2.5%)	10 (5.0%)	15 (7.4%)
Missing	2 (1.0%)	1 (0.5%)	3 (1.5%)

Authors' Survey 2021 (SPSS)

Table 12 above shows that about 48% of household heads cultivate on Swazi Nation Land, whereby 26.7% were beneficiaries and 21.3% were non-beneficiaries. Alene et al. (2013) concluded that 70% of the Swati population lives in rural areas on SNL. Most of these SNL occupants are smallholder farmers who depend on subsistence agriculture for survival hence why a majority of the respondents occupied SNL. More beneficiaries, 29.2% cultivated on Title Deed Land while 13.9% were non-beneficiaries cultivated on TDL. Only 2.5% of beneficiaries cultivated on Lease Landholding and 10% of non-beneficiaries.

Table 13: Size of Land Used by Household Heads

Variables	Borrowers (120)	Non borrowers (82)	Total (202)
Less than 2 ha	15 (7.4%)	51 (25.2%)	66 (32.7%)
2 – 5 ha	49 (24.3%)	21 (10.4%)	70 (34.7%)
5 – 10 ha	27 (13.4%)	7 (3.5%)	34 (16.8%)
Above 10 ha	29 (14.4%)	3 (1.5%)	32 (15.8%)

Authors' Survey 2021 (SPSS)

Table 13 shows that a majority of both farmer groups cultivated on 2-5 hectares of land, of which 24.3% are beneficiaries and 10.4% are non-beneficiaries. Only (7.4%) of beneficiaries and (25.2%) of non-beneficiaries cultivated on less than 2ha land. About (13.4%) of beneficiaries, (3.5%) of non-beneficiaries cultivated on 5-10ha land while (14.4%) of beneficiaries and (1.5%) of non-beneficiaries cultivated on land above 10ha.

It was observed that beneficiaries cultivated on larger scales compared to non-beneficiaries. This could be explained by those beneficiaries had more access to land and inputs hence they occupy more land.

4.3 Microfinance institutions that operate in the country and the types of services that are provided.

To identify the microfinance institutions that operate in the country and the types of services provided, respondents were asked if they had any knowledge about MFIs operations in the country. They were also asked about their source of knowledge regarding such operations, if they had benefitted from MFIs, which products they benefited from, and which MFIs they participated to. The most popular and used MFI was FINCORP with (60.8%) of members from the respondents followed by Inhlanyelo Fund with (40.8%) of members from the study area and (1.7%) from different unspecified MFI's. The most popular service provided by MFI's was credit with (99.2%) uptake from the participants while (30.8%) also saved with MFI's, (4.2%) used insurance and only (0.8%) used money transfer.

Knowledge about MFI operations

From the analysis of the 202 respondents, both beneficiaries and non-beneficiaries, 190 respondents have knowledge about the operations of MFIs in the country and 12 respondents do not know at all about the operations of MFI's. Since all beneficiaries were involved in microfinance services, 100% of the beneficiaries were aware of the services, yet with non-beneficiaries only 85.4% of them were aware of such services. This was supported by Myeni (2018) in his paper on Agriculture Finance Intervention in the Kingdom of Eswatini. He mentioned that most small-scale farmers and businesses in Eswatini do not seek loans from formal financial institutions but depend on informal mechanisms such as friends, family, and money lenders, hence the ignorance on microfinance services.

Table 13: MFI products

	Responses		Percent of cases
	Number of cases	Percent	
Credit	119	45.4	99.2
Savings	37	14.1	30.8
Business and management training	100	38.2	83.3
Insurance	5	1.9	4.2
Money transfer	1	0.4	0.8
Total	262	100.0	218.3

Authors' calculation; 2021 (SPSS)

Table 13 above shows that from the 120 respondents, there were 262 cases of which the most popular product was credit, with 99.2% currently benefitting from it. In most cases, credit and business management training was a single package, so 83.3% of the respondents benefitted from it. However, 15.9% received credit but were not trained on the business management package. Only 30.8% of beneficiaries save their money at MFI's, 4.2% use MFI's insurance services and 0.8% use money transfer through MFI's. The high usage of credit over the other services is supported by Ledgerwood (2000), who stated that credit was the only missing piece for economic growth among the poor hence, smallholder farmers prefer credit.

The results from Table 13 revealed that the two microfinance institutions used in this study, FINCORP and Inhlanyelo Fund use the Integrated Approach to provide services to their clients. This was observed by clients who received credit from both institutions, which added enterprise development services like business and production training.

Table 14: Percentage of Loan Amount Granted to Borrowers

Percentage granted	Frequency	Percent	Valid Percent
100%	103	85.8	85.8
75-99%	6	5.0	5.0
74-50%	10	8.3	8.3
Less than 50%	1	0.8	0.8
Total	120	100.0	100.0

Authors' calculation; 2021 (SPSS)

Table 14 above shows the percentage of loans received by the beneficiaries. A majority of the beneficiaries, 85.8%, received their full loan amounts while 8.3% received about 5.-74% of the loan they had applied for. About 5% received 79-99% of the loan they had asked for, and 0.8% received only less than 50% of the loan they expected.

The amount of loan granted depends on the type of enterprise/project the borrower intends to do, explained the borrowers. The borrowers also explained that newer clients were not given total credit amounts, instead the payments increased by R1000 every year when the borrower faithfully paid and came back to borrow. The MFU (2016) report mentioned that microfinance is still at an infant stage in Eswatini, and its product offering has never been robust enough to meet client demand. Hence, the shorter loan amounts.

Table 15: Duration of the Loan Waiting Period

Waiting Period	Frequency	Percent	Valid Percent
Less than a week	25	20.8	21.8
1-2 weeks	46	38.3	38.7
2-3 weeks	24	20.0	20.2
3-4 weeks	18	15.0	15.1
Above 4 weeks	6	5.0	5.0
Total	119	99.2	100.0
Missing	1	0.8	
Total	120	100.0	

Authors' calculations; 2021 (SPSS)

Table 15 above shows that most of the respondents, 38.7% received their loans in 1-2 weeks after finalising the application process. Only 21.8% received their credit in less than a week. Some beneficiaries (20.2%) received their credit in 2-3 weeks, while 15.1% received theirs in 3-4 weeks. Only 5% mentioned that they receive theirs after four weeks of loan approval.

Credit accessibility
Beneficiaries of microfinance accessed more credit from MFI's than traditional banks. Only 1.7% acknowledged receiving the credit from banks, and a lot of 98.3% received credit from MFI's. Smallholder farmers on SNL do not hold land titles, and commercial banks shun them because they lack collateral and are associated with high administration costs as they tend to borrow small amounts of money and are scattered all over the country (Mamba, 2016). Thom et al. (2014) also explained the skewness of financial inclusion to formal financial institutions in Eswatini. Around half of the Swati population is formally served, 13% use informal financial services only, and 37% are excluded.

Table 16: Beneficiaries' Active Subscriptions to MFI's

Valid reply	Frequency	Percent	Valid percent
1 MFI	111	92.5	92.5
2 MFI's	7	5.8	5.8
3 MFI's	2	1.7	1.7
Total	120	100.0	100.0

Authors' calculation: 2021 (SPSS)

Table 16 above shows that most of the beneficiaries (92.5%) have a membership with only one MFI at a time while 5.8% work with 2 MFI's and a time and only 1.7% work with 3 MFI's. Only three microfinance institutions, three micro-lenders, one trust and 59 active savings and credit institutions operate in Eswatini (FSDIP, 2017).

Table 17: MFI's Operating in the Lubombo Region

MFI Participating to	Frequency	Percent	Percent of Cases
FINCORP	73	58.9	60.8
Inhlanyelo Fund	49	39.5	40.8
Other	2	1.6	1.7
Total	124	100.0	103.3

Authors' calculation:2021 (SPSS)

From the study (Table 17), 60.8% of the respondents work with FINCORP, 40.8% work with Inhlanyelo Fund, and only 1.7% joined other microfinance institutions.

Table 18: Reasons of non-participation in MFI services

Non-participation reasons	Responses		Percent of cases
	Number of cases	Percent	
Lack of information	46	14.7	58.2
Lack of collateral	59	18.8	74.7
Microfinance in y sector does not promote credit	74	23.6	93.7
I do not know if microfinance exists in my area	74	23.6	93.7
Other	60	19.2	75.9
Total	313	100.0	396.2

Authors' survey:2021 (SPSS)

Noted from Table 18 was that some respondents have some knowledge on the operations of MFI's but still do not participate in MFI activities. When non-beneficiaries of microfinance services were asked why they were not participating in MFI activities, 58.2% of them revealed that they lacked information on MFI's operations. Those who cited lack of collateral as their main reason for non-participation were 74.7% of while 93.7% do not know about MFI's operations in their area. A final 75.9% had other reasons for non-participation, including fear of borrowing money. About 93.7% mentioned that they did not know about microfinance services in their areas.

4.4 Impact of microfinance services on smallholder farmers' incomes and productivity

To assess the impact of microfinance services on the smallholder farmers' incomes and productivity, a t-test was initially assumed to be used for this analysis. Due to the data not passing assumptions of normality, a substitute of the t-test, a Mann Whitney U Test (Wilcoxon Sum Rank Test), was used (Results provided in Table 19).

Table 19: Total farm income for maize production

	Mean Rank	*U*	Z	P	R
Total maize income for 2018		7 195.00	-2.81	.004	.20
Beneficiaries	13 307.50				
Non-beneficiaries	7 195.50				
Total maize production income for 2019		7 101.00	-3.111	.002	.22
Beneficiaries	13 402.00				
Non-beneficiaries	7 101.00				
Total maize production for 2020		6 794.00	-3.887	.001	.27
Beneficiaries	13 709.00				
Non-beneficiaries	6 794.00				

Authors' survey:2021 (SPSS)

To better understand the total maize income from the two farmer groups, their mean income was compared against each other, and the results revealed that microfinance beneficiaries have higher maize production incomes compared to their counterparts. The results in Table 19 indicated a significant difference in the income of maize production in 2018 at (p <.004) at 5%. The R-value for 2018 total maize income was 0.02; according to Cohen (1988), it reflects a small to medium effect on the difference between the two groups.

The exact difference between the farmer groups was observed for 2019 production as the mean total income for maize production of beneficiaries in 2019 was 13402 and for non-beneficiaries

was 7101. The p-value indicated a significant difference (p<.002)** between the maize income levels of beneficiaries and non-beneficiaries. The difference between the maize incomes of beneficiaries and non-beneficiaries is assumed to have a small to medium effect (R=.002) on the farmers' incomes.

A significant difference in the income in maize production of the two farmer groups in 2020 was also noted at p<.001***. The difference is assumed to have a small to medium effect on the incomes on both farming groups (R=.27). The overall observation is that beneficiaries had more revenue on the sales of maize because they had timely access to inputs, owned heavy machinery for tillage and had access to markets.

Table 20: Total Quantity of Maize Produced

	Mean Rank	*U*	Z	P	R
Total Maize Quantity For 2018		2689.0	-5.824	.001	.410
Beneficiaries	120.09				
Non-beneficiaries	74.9				
Total Maize Quantity for 2019		2656.5	-5.955	.001	.420
Beneficiaries	120.36				
Non-beneficiaries	73.90				
Total maize Quantity 2020		2258.5	-7.029	.001	.500
Beneficiaries	123.68				
Non-beneficiaries	69.04				

Authors' survey;2021 (SPSS)

Beneficiaries were more productive than non-beneficiaries. As shown in Table 20, in 2018 the mean rank of beneficiaries was 120.09, while for non-beneficiaries was 74.9. In 2019, the beneficiaries mean rank was 120.36 and non-beneficiaries was 73.9. While in 2020 the mean

rank of beneficiaries was 123.68 and non-beneficiaries was 69.0. Therefore, it was concluded that a significant difference between the productivity of beneficiaries and non-beneficiaries exists at $p<.001^{***}$ for all three years. Alene et al. (2013) attributed the low-productivity challenge to the use of traditional technologies by smallholder farmers, which are usually low-input and have limited access to resources. The R values showed medium to huge effects for 2018, 2019 and established a huge effect in 2020 on the differences between the two farmer groups in productivity.

A comparison on farm machinery ownership between the two farmers groups was also used to assess the impact of microfinance services on the incomes and productivity of smallholder farmers. Below is Table 21 that summarizes farm machinery ownership of the farmers and the number of units in each asset.

Table 21: Farm Machinery and implements owned by the farmers

Type of machinery	U	P	Z	R
Tractor	2758.0	.001***	-5.849	.41
Truck	3874.0	.003**	-2.984	.21
Ploughs	3672.5	.001***	-3.631	.26
Planter	3296.0	.001***	-4.536	.32
Sprinkler and sprayer	4009.5	.021**	-2.306	.17
Combine harvester	4773.5	.222	-1.221	.09
Other	4958	.700	0.386	.03

Authors' survey:2021 (SPSS)

The results in Table 21 show that ownership of tractors, trucks, ploughs, planter, sprinklers, and sprayers significantly impacts the differences between the farmers. Microfinance beneficiaries own more of the machinery mentioned above and implements while their counterparts own a few or nothing. The differences in ownership of combine harvesters and

other machinery between the two farmer groups are statistically insignificant; both farmer groups do not own that kind of machinery.
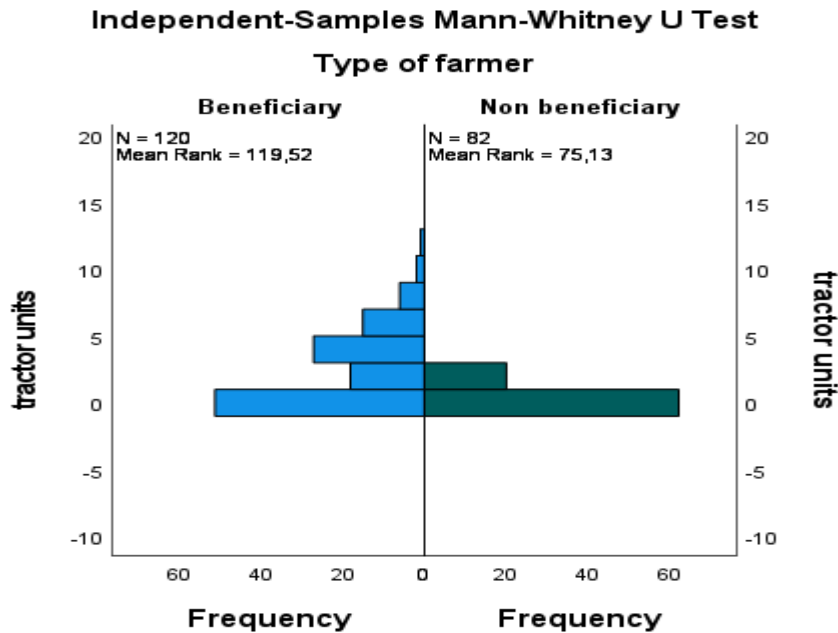
Figure 2: Tractor Ownership

The ownership of tractors showed a significant impact on the differences between beneficiaries and non-beneficiaries of microfinance. The mean rank for units of tractors owned by beneficiaries was 119.52, while for non-beneficiaries was 75.13. The p-value ($p<.001$) significantly affected the differences between the farmer groups; beneficiaries significantly own more tractor units than non-beneficiaries. According to Cohen (1988), microfinance has a medium to a huge effect on its beneficiaries, measured with the R value of 0.41.
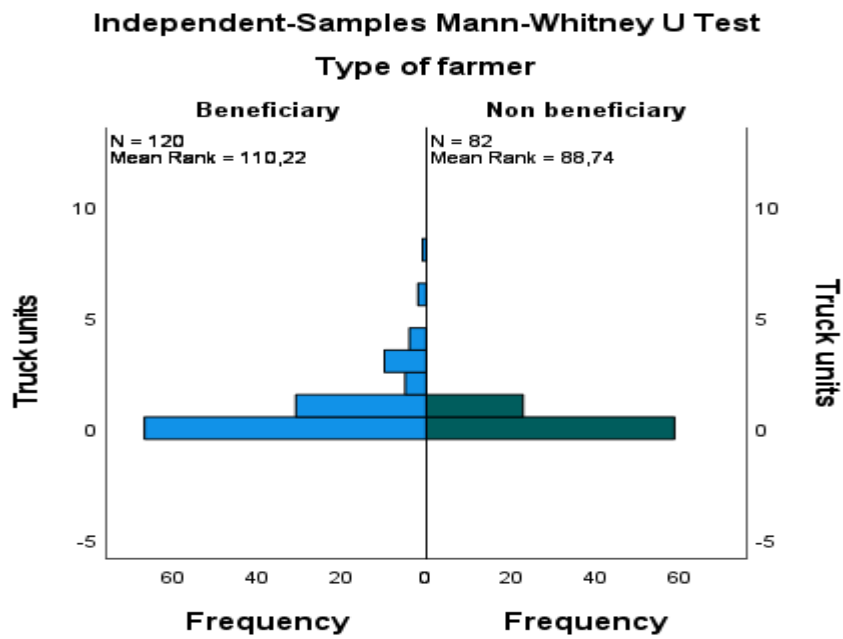
Figure 3:Truck Ownership

There is also a significant effect on the differences between microfinance beneficiaries and non-beneficiaries on machinery ownership, including trucks (p<0.003). The mean rank of truck units owned by beneficiaries of microfinance was 110.22, while for their counterparts, it was 88.74; beneficiaries of microfinance own more trucks than non-beneficiaries. The R-value of 0.21 indicates a small to medium effect of microfinance on the ownership of trucks.
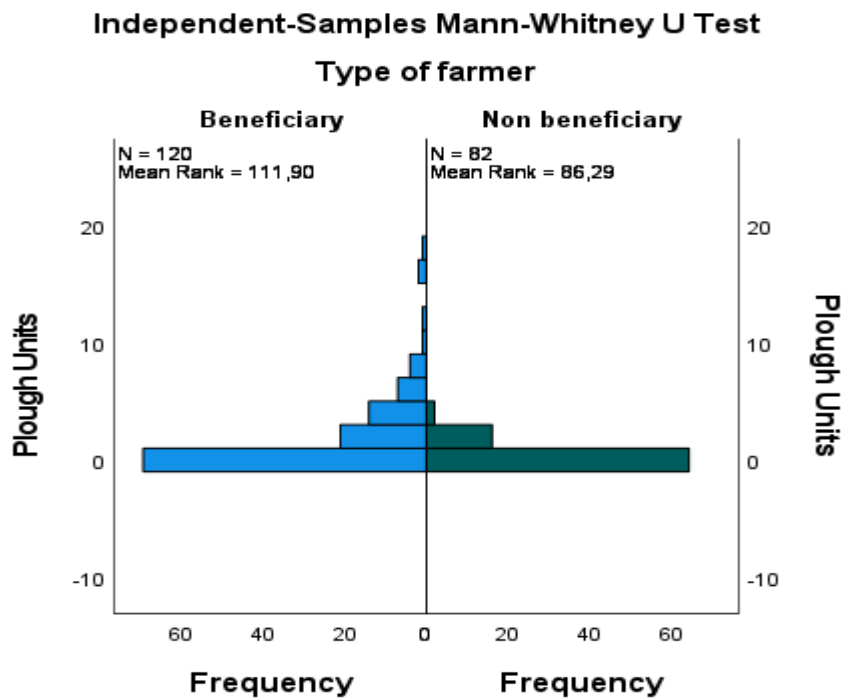
Figure 4: Plough Ownership

The analysis results from Figure 4 show that the mean rank of plough units from beneficiaries was 111.90, while that of non-beneficiaries was 86.29. Beneficiaries of microfinance own more plough units than non-beneficiaries. The p-value ($p<0.001$) emphasised a significant positive effect of microfinance services on its beneficiaries. The impact of microfinance on plough ownership has a small to medium effect ($R=0.26$) on the farmers' productivity.
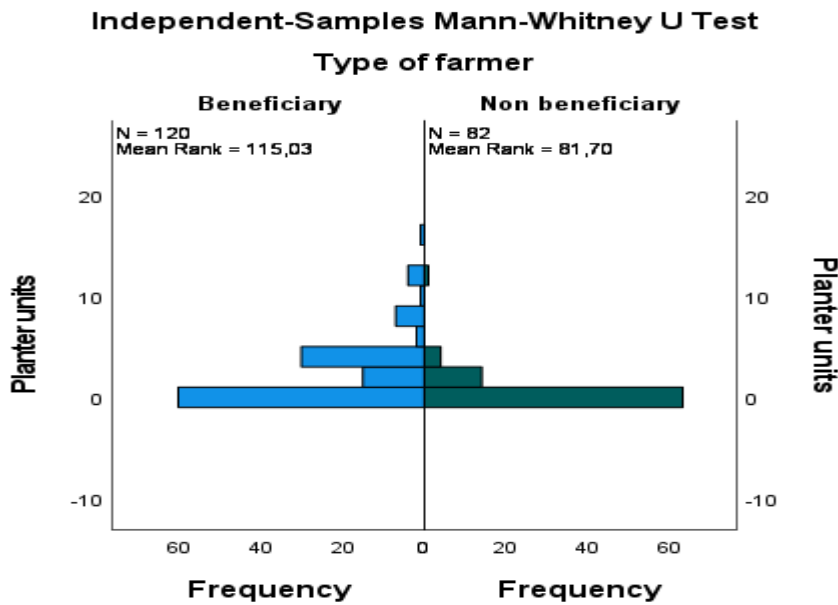
Figure 5: Planter Ownership

Microfinance beneficiaries had a higher mean rank of planter units, 115.03 and non-beneficiaries had a mean rank of 81.70. Beneficiaries were observed to have more planter units compared to non-beneficiaries. The effect of microfinance services on the beneficiaries had a positive effect ($p < 0.001$) on the income and productivity of the farmers. The effect of microfinance on its beneficiaries is a medium effect (R=0.32). (Results shown in Figure 5)
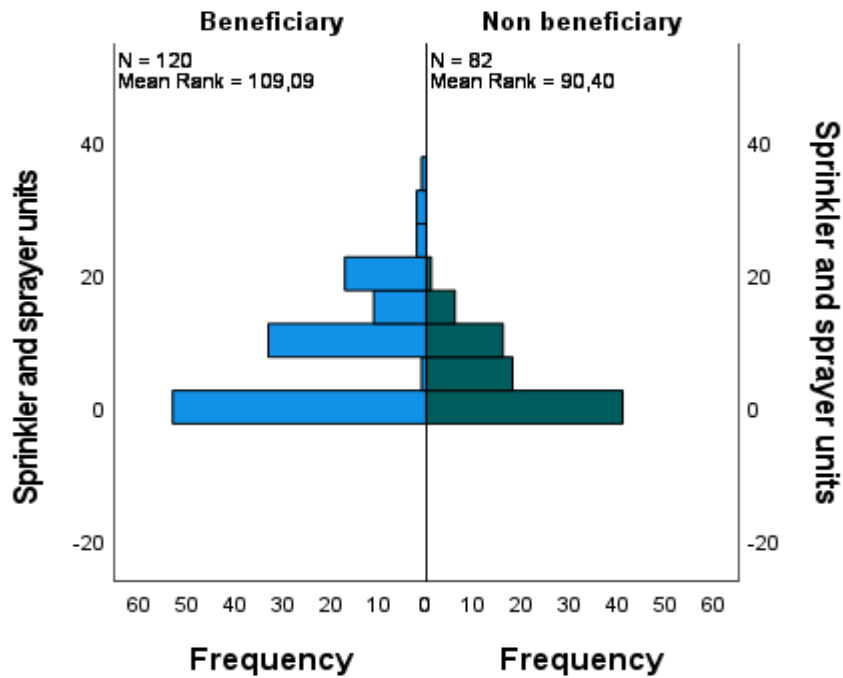
Figure 6: Sprinkler and Sprayer Ownership

The effect of microfinance services on the incomes and productivity of beneficiaries is positively significant, at $p<0.021$. It was revealed by the analysis in Figure 6 based on the ownership of farm implements, including sprinklers and sprayers. More microfinance beneficiaries owned these implements with a mean rank of 109.9 while their counterparts sat on a mean rank of 90.40. This showed a small effect on the incomes and productivity of the beneficiaries when compared to non-beneficiaries,

.

Table 22: Differences in home and farm investments between the two farmer groups

Farm/home investment	Sum of ranks	U	Z	P	R
Bought farm machinery/implements.		3521.5	-3.919	.001	0.28
Beneficiaries	10781.5				
Non-beneficiaries	9721.5				
Bought a car		3362.5	-4.343	.001	0.31
Beneficiaries	10622.5				
Non-beneficiaries	9880.5				
Bought/built/renovated a house		4488.0	-1.244	.214	0.89
Beneficiaries	11748.0				
Non-beneficiaries	8755.0				
Invested in land improvement.		4081.0	-2.508	.012	0.18
Beneficiaries	11341.0				
Non-beneficiaries	9162.0				
Fenced the farm		4034.5	-2.512	.012	0.18
Beneficiaries	11294.5				
Non-beneficiaries	9208.5				
Bought land		2767.5	-6.094	.001	0.43
Beneficiaries	10027.5				
Non-beneficiaries	10475.5				
Invested in an irrigation system		4695.0	-0.641	.521	0.05
Beneficiaries	11955.5				
Non-beneficiaries	8547.5				
Bought household durables, e.g., furniture		4005.5	-2.633	.008	0.19
Beneficiaries	11265.5				
Non-beneficiaries	9237.5				
Other investments		3319.5	-5.507	.001	0.39
	10579.5				
Beneficiaries	9923.5				
Non-beneficiaries					

Authors' survey:2021 (SPSS)

4.4.1 Differences in home and farm investments between the two farmer groups

To measure the impacts of microfinance services on smallholder farmers' incomes and productivity, a comparison of home and farm investments made since they both started practising crop production were made. The items used for the analysis were investments made including; buying of farm machinery, cars bought, houses built or renovated, land improvement, fenced farms, bought land, invested in irrigation systems, bought household durables, e.g. furniture and other investments including purchasing livestock. Results are shown on Table 22.

Bought farm machinery/implements (tractor, plough, hoe, sprayer, etc.)

The analysis reflects that the sum of beneficiaries who bought machinery since they ventured into microfinance was 10781.5 while non-beneficiaries who bought farm machinery since they ventured into crop production was 9721.5. The analysis revealed a significant relationship between the differences in machinery ownership between microfinance beneficiaries and non-beneficiaries at $p<.001***$. The R-value (0.28) showed that the difference between these two farmer groups was assumed to have a small to medium effect on the incomes and productivity of the two farmers based on the ownership of farm machinery.

	Yes	No	Cannot specify
Beneficiaries	39,10%	19,80%	1,00%
Non-Beneficiaires	16,80%	20,30%	3,00%
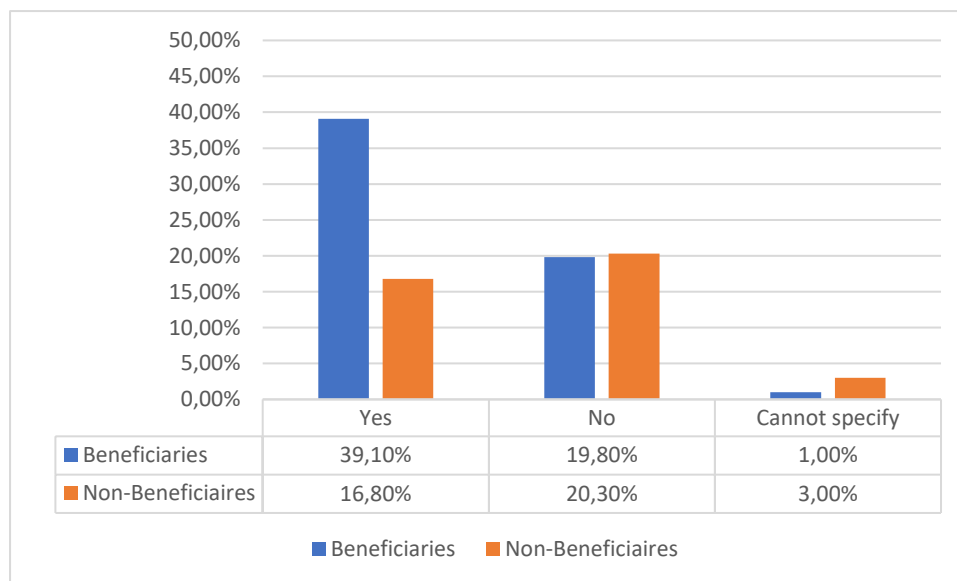
Figure 7: Differences in Farm Machinery Between the Two Farmer Groups

Figure 7 above shows that (39.1%) and (19.8%) of beneficiaries and non-beneficiaries respectively own farm machinery. While only (16.8%) beneficiaries and (20.3%) of non-beneficiaries do not own farm machinery and a total of (4%) did not specify what they own.

Invested in a car

Car ownership was also used as a comparison strategy for the two farmer groups as it was considered a valuable asset. The sum of ranks of beneficiaries who owned cars was 10622.5, while for non-beneficiaries was 9880.5. At p<.001, the analysis showed a significant effect on differences between beneficiaries of microfinance and non-beneficiaries on ownership of cars.

	Yes	No	Cannot specify
■ Beneficiaries	38,10%	24,30%	1,50%
■ Non-Beneficiaires	21,00%	12,90%	2,20%

■ Beneficiaries   ■ Non-Beneficiaires
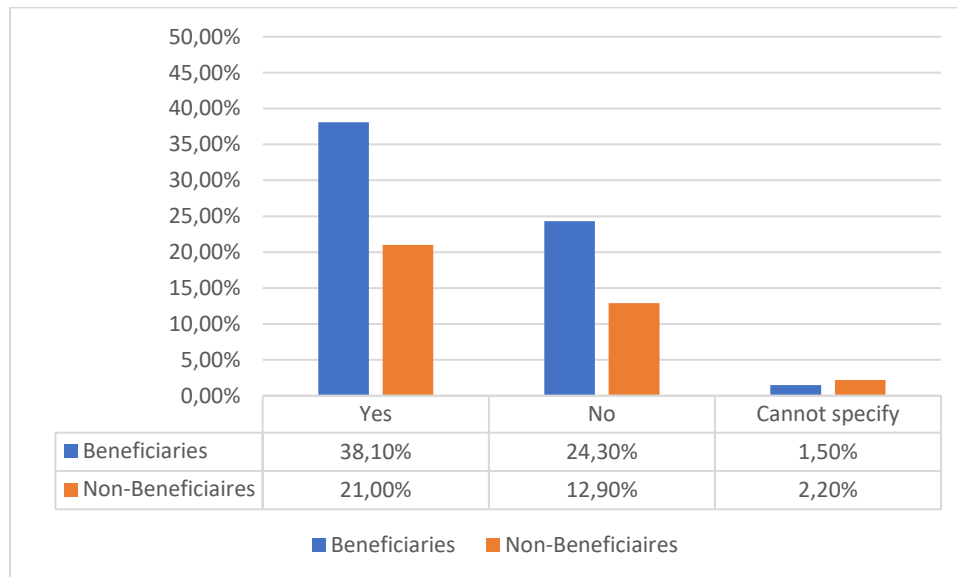
Figure 8: Differences in Car Ownership

Figure 8 above shows that (38.1%) of beneficiaries and (21%) of non-beneficiaries own cars while (24.3%) of beneficiaries and (12.9%) of non-beneficiaries dot have cars. Only (1.5%) of beneficiaries and (2.2%) of non-beneficiaries did not specify their possession.

Bought/built/renovated a house

The sum of ranks for beneficiaries who bought or renovated homes since microfinance intervention was 11748.0, while non-beneficiaries who bought/built/renovated houses since they ventured into farming was 8755.0. The analysis showed an insignificant relationship of differences between beneficiaries of microfinance and non-beneficiaries at p<.214.
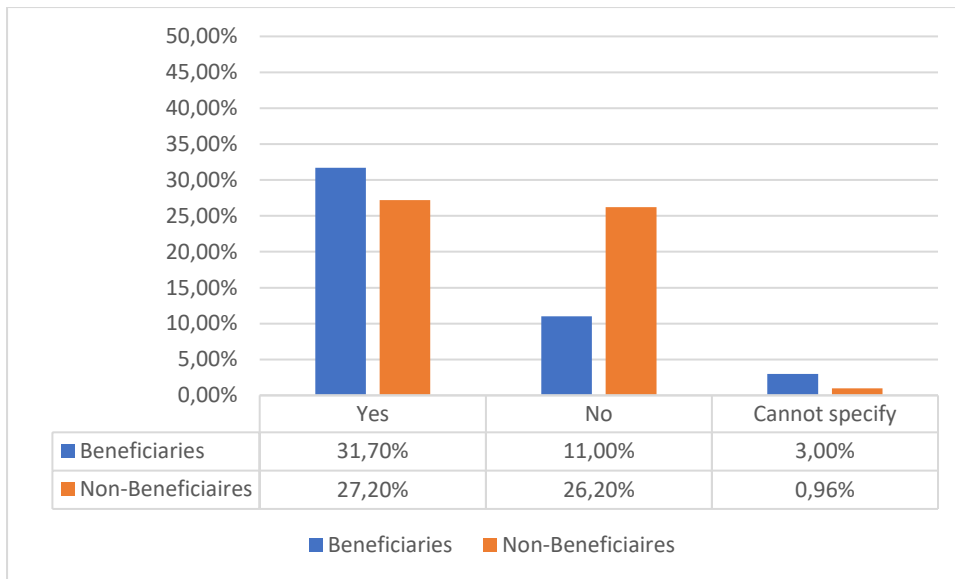
Figure 9:Differences in construction of homes

Land Improvement

Land is considered a primary source for crop production, and both farmer groups appreciate their land as they put money aside to develop it. The sum of ranks of beneficiaries who invested in land improvement was 11341.0 while for their counterparts was 9162.0. At $p< 0.012$, the analysis reflects a significant relationship in the differences between the two farmer groups in land improvement. The difference in land improvement between the two farmer groups was assumed to have a small effect on the differences between their income and productivity by the R value (0.18).
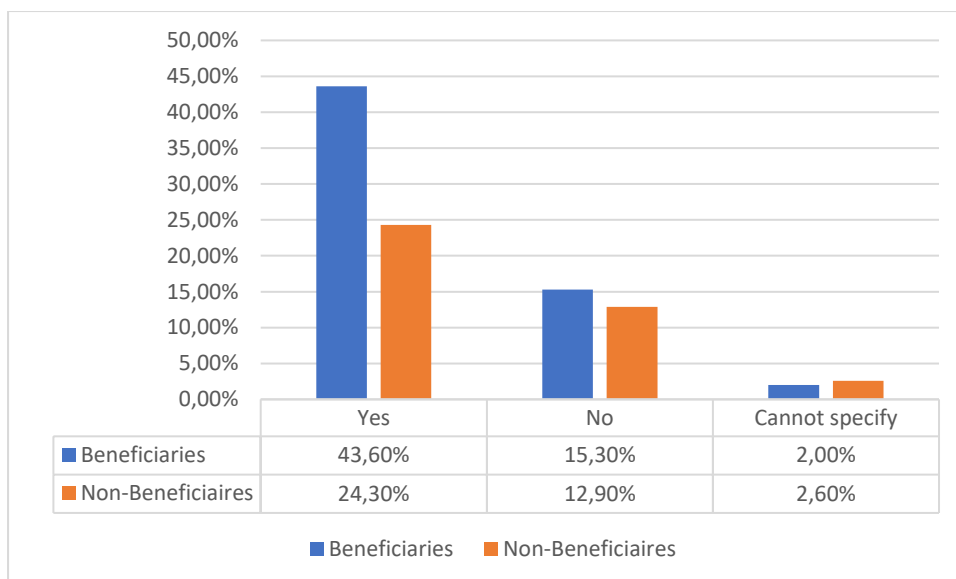
Figure 10:Differences in land improvement investment

Figure 10 shows that more beneficiaries (43.6%) improved their land while (24.3%) of non-beneficiaries managed to improve their land. About (15.3%) of beneficiaries did not improve their land as well as (12.9%) of non-beneficiaries. About (4.6%) did not specify on their responses.

Fenced the farm
Beneficiaries of microfinance managed to fence their farms more than non-beneficiaries. It was shown by the sum of ranks for beneficiaries which was 11294.5, while for non-beneficiaries was 9208.5. Figure 11 shows that more beneficiaries (38.6%) fenced their farms against (20.8%) of non-beneficiaries who do not have fence on their farming land. The results show a significant relationship (p<.012) in the differences between beneficiaries and non-beneficiaries. The difference was also assumed to have a small effect, R=0.18 on the productivity and incomes of the farmers.
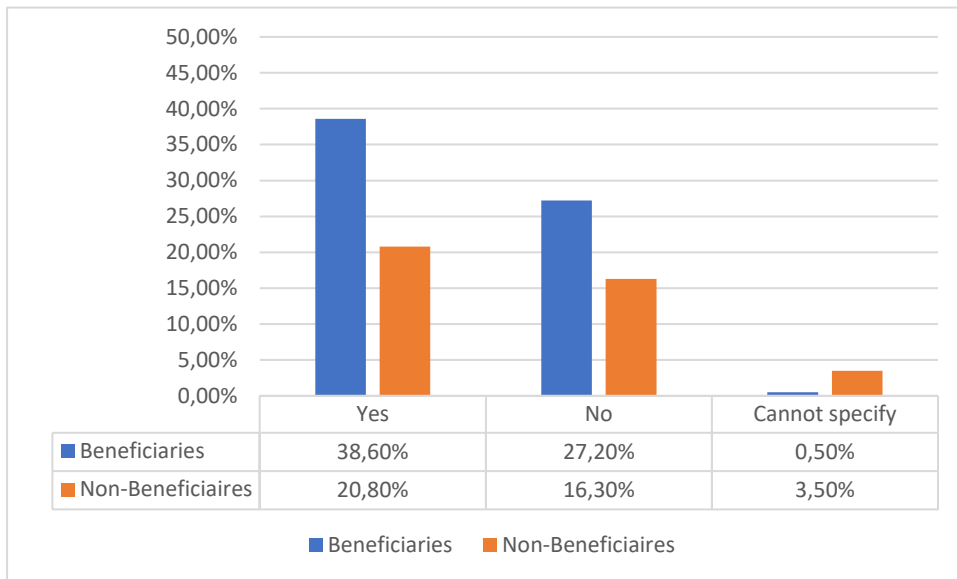
Figure 11:Differences in farm fencing

Bought Land

Figure 12 below shows the graphical difference between beneficiaries of microfinance and non-beneficiaries in land investments. The Figure illustrates that 31.7% of beneficiaries bought land since microfinance intervention, while only 26.7% of non-beneficiaries managed to buy land since they ventured into crop production. The analysis shows a significant relationship in differences between incomes and productivity of beneficiaries and non-beneficiaries of microfinance.

	Yes	No	Cannot specify
■ Beneficiaries	31,70%	11,00%	3,00%
■ Non-Beneficiaires	27,20%	26,20%	0,96%

■ Beneficiaries ■ Non-Beneficiaires
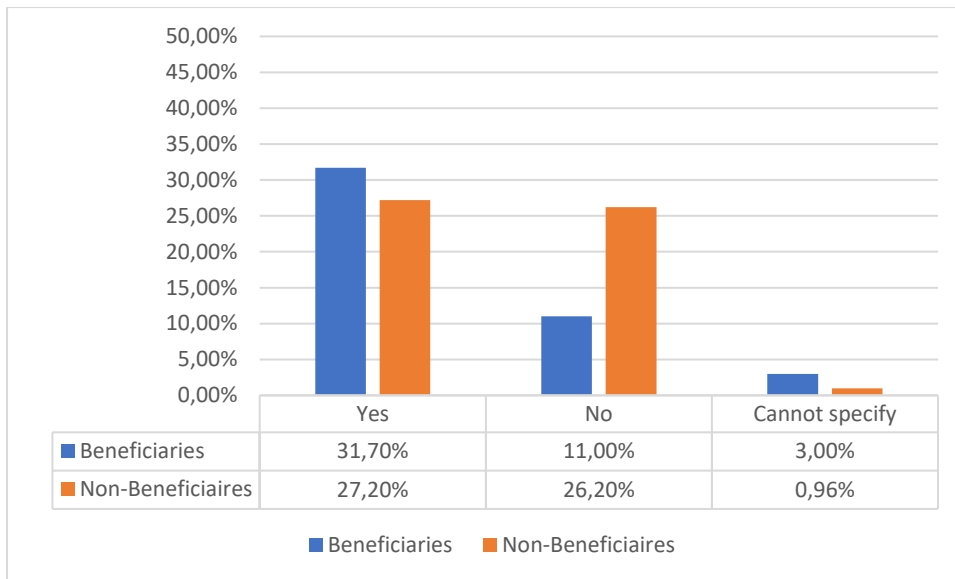
Figure 12:Differences on purchases of land

Bought household durables

The sum of ranks for beneficiaries who bought household durables was 11265.5, while for non-beneficiaries was 9237.5. The analysis reflected that beneficiaries (40.6%) bought more household durables when compared to non-beneficiaries (21.8%) as shown in Figure 13. Therefore, the analysis in household durables shows a significant positive relationship at $p<.008$ in incomes and productivity of the farmers. The effect of the differences, R=0.19 has a small to medium effect on the farmers' productivity
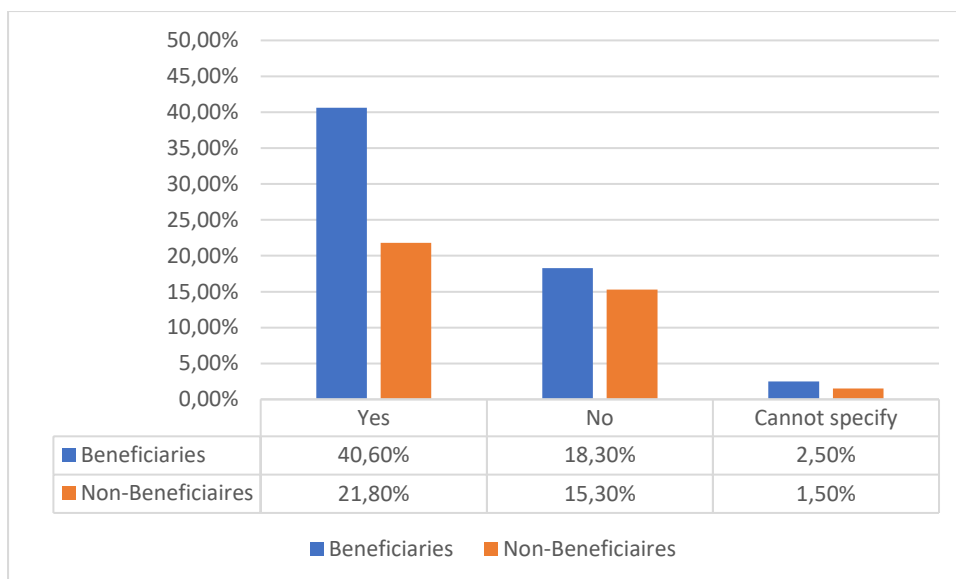
Figure 13:Differences in purchases of household durables

4.4.2 Comparison Among the Two Groups Using Economic and Social Statuses

Comparison against affordability of family needs, if they had entirely cultivated their land and the reasons of non-cultivation.

From Table 23 below, more non-beneficiaries (64.7%) could only afford food and 35.3% of beneficiaries, a small to medium about 52.8% of non-beneficiaries afforded only to buy food and necessities. At the same time, their counterparts only 47.2%, could afford to buy only food and necessities only with their income. About 56.6% of beneficiaries had the money for everyday needs while only 43.4% of non-beneficiaries afforded daily needs for their families. About 73.8% of beneficiaries afforded to buy all furniture and household durables with their income, while only 26.2% of non-beneficiaries could afford such. Lastly, 77.8% of beneficiaries were afforded to purchase heavyweight assets, while only 22.2% of beneficiaries could afford such purchases with their incomes.

Table 23: Needs Satisfied with Family Income

What needs can you satisfy with your family income?	Beneficiary	Non-beneficiary	Total	Percentage		
				Beneficiary	Non-beneficiary	Total Percentage
Enough money for food only	6	11	17	35.3	64.7	**100.0**
Enough money for food and basic necessities	25	28	53	47.2	52.8	**100.0**
Enough money for everyday needs	30	23	53	56.6	43.4	**100.0**
Enough money to buy furniture and other household durables	45	16	61	73.8	26.2	**100.0**
Enough money to buy heavy weight assets	14	4	18	77.8	22.2	**100.0**
Total	**120**	**82**	**202**			

Authors' survey:2021 (SPSS)

Figure 14 below clearly shows that as the expenditure for needs increases, more beneficiaries afforded to buy the items while non-beneficiaries struggled with the more expensive household items.
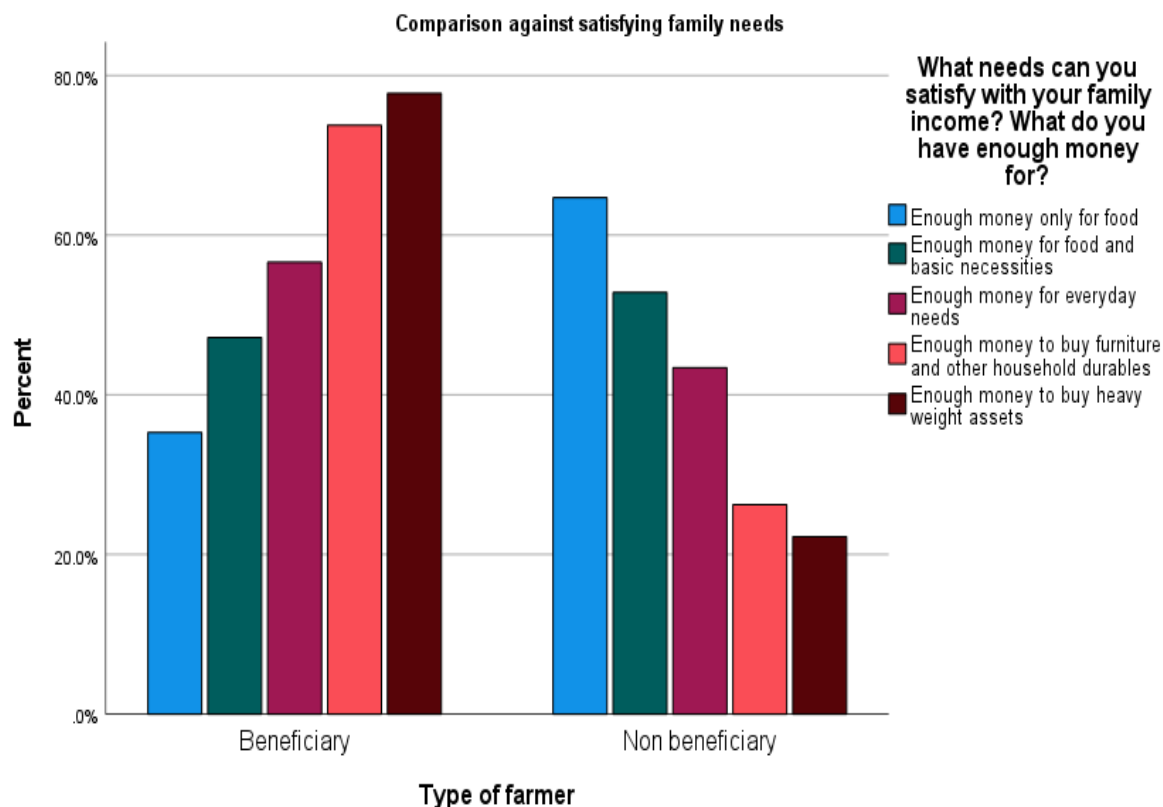
Figure 14:Comparison Against Satisfaction of Family Needs

Table 24: Cultivation of land

Is your land entirely cultivated this season?	Beneficiary	Non-beneficiary	Total	Percentage		
				Beneficiary	**Non-beneficiary**	**Total Percentage**
YES	105	57	162	64.8	35.2	**100.0**
NO	15	25	40	37.5	62.5	**100.0**
Total	**120**	**82**	**202**			

Authors' calculation:2021 (SPSS)

Table 24 above shows that 64.8% of beneficiaries entirely cultivated their land while 35.2% of non-beneficiaries managed to cultivate their entire land.

Table 25; Non-cultivation reasons

Non-cultivation reasons	Type of farmer			Total Percentage		
	Beneficiary	Non-beneficiary	Total	Beneficiary	Non-beneficiary	Total Percentage
Not enough money	2	3	5	40.0	60.0	100.0
Not enough water	5	3	9	55.5	33.3	100.0
Not enough manpower	0	2	1	0.0	100.0	100.0
Not enough inputs	1	2	3	33.3	66.7	100.0
Not enough machinery	3	1	4	75.0	25.0	100.0
Other	3	14	17	17.6	82.4	100.0
Total	15	25	39			

Authors' survey:2021 (SPSS)

Table 25 above summarised reasons for non-cultivation for both beneficiaries and non-beneficiaries. Findings revealed that 37.5% of beneficiaries did not cultivate, along with 62.5% of non-beneficiaries.

Not enough money

The table shows that 40% of the beneficiaries did not have money for cultivation and 60% of non-beneficiaries. More non-beneficiaries lacked money for cultivation compared to beneficiaries.

Not enough water

About 55.5% of beneficiaries did not cultivate season because the water for irrigation was insufficient, and only 33.3% of non-beneficiaries failed to cultivate because of the lack of water.

Not enough manpower

From Table 25, only non-beneficiaries did not cultivate because of the lack of manpower.

Not enough machinery

About 75% of beneficiaries did not cultivate because they lacked machinery, and only 25% of non-beneficiaries lacked machinery.

Other reasons

Only 17.6% of beneficiaries did not cultivate for other reasons, and about 82.4% of non-beneficiaries did not cultivate because of other reasons. The other reasons included crop rotation, land disputes and seasonal growing. Most of the non-beneficiaries' practise crop rotation mainly because of the lack of land. They were involved in more land disputes since most of them cultivated on shared or inherited land. Non-beneficiaries mostly had unfenced farms, which exposed the farms to livestock if planted off-season.

4.5 Socioeconomic characteristics which influence repayment of microfinance credit
Table 26: Gender on the influence of repayment

Gender	yes	no	I am still servicing my loan	Total	Percentage				
					Yes	no	I am servicing my loan	still my	Total percentage
Male	55	1	18	74	74.3	1.4	24.3		100.0
Female	14	0	32	46	30.4	0.0	69.6		100.0
Total	69	1	50	120	57.5	0.8	41.7		100.0

Authors' calculation:2021 (SPSS)

Results from Table 26 show that more males, 74.3% repaid their credit on time, while 69.6% of females were still servicing their loans together with 24.3% of males. The study had a majority of male respondents (65.3%) and fewer females (34.7%), which could be why more males repaid their loans on time.

Table 27: Position in the household on the influence of repayment

Repayment	Position in household			Total	Percentage		
	Household head	Spouse	Sibling		Household Head	Spouse	Sibling
Yes	65	3	1	69	94.2	1.8	1.4
No	1	0	0	1	100.0	0.0	0.0
I am still servicing my loan	32	17	1	50	64.0	34.0	2.0
Total	98	20	2	120	81.7	16.7	1.7

Authors' calculation:2021 (SPSS)

Household heads, (94.2%) repaid their loan in full, only (1.8%) of spouses repaid along with (1.4%) of siblings. Only one household head did not repay the loan; (64%) of the household heads were still servicing their loan with (34%) of spouses and (2%) of siblings. It could be deduced from the analysis that household heads are more responsible than their counterparts. They are supposed to protect their families; hence, if they default, the whole family suffers the recuperations.

Table 28: Age on the influence of repayment

Age group	Yes	no	I am still servicing my loan	Total	Percentage			
					Yes	No	I am still servicing my loan	Total
18-24	1	0	0	1	100.0	0.0	0.0	100.0
25-34	5	0	6	11	45.6	0.0	54.5	100.0
35-44	21	1	12	34	61.8	2.9	35.3	100.0
45-54	35	0	13	48	72.9	0.0	27.1	100.0
55+	7	0	19	26	26.9	0.0	73.1	100.0
Total	69	1	50	120	57.5	0.8	41.7	100.0

Authors' Calculations:2021 (SPSS)

Results from Table 28 show that there was only one person who borrowed from the 18-24 group who borrowed and repaid in full, the 45-54 age group repaid more than the other age groups (72.9%) of them repaid in full while (61.8%) of the 35-54 age group repaid. Also, (45.6%) of the 25-34 age group fully repaid and (26.9%) of respondents older than 55 years fully repaid. The 45-54 years age group was the most active. It had more borrowers and more repayments, and this is because it is the most active economic age group, hence the more manageable repayment.

Table 29: Educational level on the influence of repayment

Age group	Yes	no	I am still servicing my loan	Total	Percentage			
					Yes	no	I am still servicing my loan	Total
No formal education	5	0	4	9	55.6	0.0	44.4	100.0
Primary school	2	0	18	20	10.0	0.0	90.0	100.0
Secondary school	23	0	19	42	54.8	0.0	45.2	100.0
High school drop out	10	0	8	18	55.6	0.0	44.4	100.0
Tertiary	29	1	1	31	93.5	3.2	3.2	100.0
Total	69	1	50	120	57.5	0.8	41.7	100.0

Authors' calculation:2021 (SPSS)

Results on Table 29 show that about (93.5%) of borrowers who went to tertiary institutions repaid their loans more than the other respondents. Oladeebo and Oladeebo (2008) explained that literate farmers were expected to pay more than their counterparts. They understood better the advantages of prompt payment without even regarding microloans as their share of the national cake. About (55.6%) with no formal education repaid, while only (10%) who only went to primary schools repaid. Also, (54.8%) of borrowers with secondary education level and 55.6% high school dropouts repaid.

Table 30: Marital status on the influence of repayment

Marital status	Yes	no	I am still servicing my loan	Total	Percentage			
					yes	no	I am still servicing my loan	Total
Single	16	0	3	19	84.2	0.0	15.8	100.0
Married	37	1	32	70	52.9	1.4	45.7	100.0
Divorced	5	0	1	6	83.3	0.0	16.7	100.0
Widowed	10	0	14	24	41.7	0.0	58.3	100.0
Separated	1	0	0	1	100.0	0.0	0.0	100.0
Total	69	1	50	120	57.8	0.8	41.7	100.0

Authors' calculation:2021 (SPSS)

Only one separated respondent borrowed a fully repaid loan, while more single borrowers, (84.2%) repaid their loans and (83.3%) of divorced borrowers repaid their loans. Only (52.9%) of married borrowers managed to fully repay their loans together with (41.7%) of widowed borrowers. Results are shown on Table 29.

Table 30: Occupation on the influence of repayment

Occupation	Yes	no	I am still servicing my loan	Total	Percentage			
					yes	no	I am still servicing my loan	Total
Full time farmer	47	1	43	91	51.7	1.1	47.3	100.0
Part time farmer	10	0	2	12	83.3	0.0	16.7	100.0
Civil servant	9	0	2	11	81.2	0.0	18.2	100.0
Company employee	2	0	3	5	40.0	0.0	60.0	100.0
Self employed	1	0	0	1	100.0	0.0	0.0	100.0
Total	69	1	50	120	57.8	0.8	41.7	100.0

Authors' calculation:2021 (SPSS)

Results on Table 30 show that only one self-employed borrowed and fully repaid their loan, along with (83.3%) of part-time farmers. About (81.2%) of civil servants, (51.7%) of full-time farmers and (40%) of company employees repaid their loan in full. Most part-time farmers had jobs elsewhere so, they had multiple income streams, which made it easier to repay.

Table 31: Source of income on the influence of repayment

Source	Yes	no	I am still servicing my loan	Total	Percentage			
					yes	no	I am still servicing my loan	Total
Salary	9	0	4	13	69.2	0.0	30.8	100.0
Farming	60	1	44	105	57.1	2.3	41.9	100.0
Pension	0	0	1	1	0.0	0.0	100.0	100.0
Missing	0	0	1	1	0.0	0.0	100.0	100.0
Total	69	1	50	120	57.8	0.8	41.7	100.0

Authors' calculation:2021 (SPSS)

Table 31 shows that only 69.2% of borrowers with a salary and 57.1% who earn from farming were fully repaid. Only one pensioner borrowed and is still servicing their loan.

Table 32: Estimated monthly income on the influence of repayment

Monthly income	Yes	no	I am still servicing my loan	Total	Percentage			
					yes	no	I am still servicing my loan	Total
Less than R5000	0	0	42	42	0.0	0.0	100.0	100.0
R5000-R10000	19	0	3	22	86.4	0.0	13.6	100.0
R10000-R15000	28	1	4	33	84.9	3.0	12.1	100.0
R15000-R20000	18	0	1	19	94.7	0.0	5.3	100.0
Above R20000	3	0	0	3	100.0	0.0	0.0	100.0
Missing	1	0	0	1	100.0	0.0	0.0	100.0
Total	69	1	50	120	57.8	0.8	41.7	100.0

Authors' calculation:2021 (SPSS)

Only three people with an estimated monthly income above R20000 borrowed and fully repaid their loan, while 42 borrowers who earn less than R5000 borrowed and are all still servicing their loans. About (94.7%) who receive a monthly income in between R150000-R20000, 84.9% of borrowers earning in between R10000-R15000 and (86.4%) earning in between R5000-R10000 fully repaid. Results are shown on Table 32.

Table 33: Tenure status on the influence of repayment

Tenure status	Yes	no	I am still servicing my loan	Total	Percentage			
					Yes	no	I am still servicing my loan	Total
Own	2	0	22	24	8.3	0.0	91.7	100.0
Inherited	34	1	5	40	85.0	2.5	12.5	100.0
Leased	8	0	18	26	30.7	0.0	69.2	100.0
Share cropped in	25	0	4	29	86.2	0.0	13.8	100.0
Missing	0	0	1	1	0.0	0.0	100.0	100.0
Total	69	1	50	120	57.8	0.8	41.7	100.0

Authors' calculation:2021 (SPSS)

Table 33 shows that about (8.3%) of beneficiaries who own the land they farm on managed to fully repay their loan, while (91.7%) of them are still servicing their loans. About (85%) of borrowers with inherited land repaid fully, and (86.2%) who farm on shared land. Only (30.7%) who farm on leased land repaid their loan, while (69.2%) of them are still servicing their loan.

Table 34: Type of land used for farming on the influence of repayment

Type of land	Yes	no	I am still servicing my loan	Total	Percentage			
					yes	no	I am still servicing my loan	Total
TDL	56	1	2	59	94.9	1.7	3.4	100.0
SNL	8	0	46	54	14.8	0.0	85.2	100.0
Lease landholding	3	0	2	5	60.0	0.0	40.0	100.0
Missing	2	0	0	2	100.0	0.0	0.0	100.0
Total	69	1	50	120	57.8	0.8	41.7	100.0

Authors' calculation:2021 (SPSS)

About (94.9%) of borrowers on Title Deed Land and (14.8%) on Swazi Nation Land repaid, while (85.2%) of them are still servicing their loan. About (60%) of borrowers who farm on leased land are repaid, and (40 %) are still paying their loans. Farmers on TDL usually use their land as collateral when seeking loans, hence the high repayment rate so they do not lose their land because of default. Results are shown on Table 34.

Table 35: Size of farmland on the influence of repayment

Size	Yes	no	I am still servicing my loan	Total	Percentage			
					yes	no	I am still servicing my loan	Total
Less than 2 ha	2	0	13	15	13.3	0.0	86.7	100.0
2-5ha	22	1	26	49	44.9	2.0	53.1	100.0
5-10ha	16	0	11	27	59.2	0.0	40.7	100.0
Above 10ha	29	0	0	29	100.0	0.0	0.0	100.0
Total	69	1	50	120	57.8	0.8	41.7	100.0

Authors' calculation:2021 (SPSS)

Shown on Table 35 is that all 29 farmers who owned farmland above 10 ha, (59.2%) with farmland between 5-10 ha managed to pay fully, while (40.7%) are still servicing their loan. About (44.9%) of beneficiaries who farm on land between 2-5ha repaid, while (53.1%) were still repaying. Only (13.3%) of beneficiaries who plant on land less than 2 ha repaid, while (86.7%) are still repaying.

Table36; Average Marginal Effects of Factors Determining Repayment Rate (Derived from Results of Fractional Logit Regression)

Average marginal effects				Number of obs = 118		

Model VCE: Robust

Expression: Conditional mean of Repayment, predict ()

	Delta-Method					
Repayment	dy/dx	Std. err.	z	P>|z|	[95% conf. interval]	
Sex	-.0552877	.0310374	-1.78	0.075*	-.11612	.0055445
Farming experience	-.0175471	.0191515	-0.92	0.360	-.0550833	.0199892
Type of land	-.0000141	.0007206	-0.02	0.984	-.0014265	.0013984
Tenure status	-.0171324	.0219154	-0.78	0.434	-.0600858	.025821
Education	.0233664	.0102265	2.28	0.022**	.0033229	.0434098
Sufficiency	-.1756438	.065549	-2.68	0.007	-.3041176	-.0471701
Extension services	-.2006671	.0768775	-2.61	0.009	-.3513443	-.04999
Distance	-.0969264	.0406587	-2.38	0.017***	-.1766161	-.0172367
Source of income	.001619	.0011811	1.37	0.170	-.0006958	.0039339
Credit received	-.0557522	.0214615	-2.60	0.009	-.0978159	-.0136885
Occupation	.0175584	.0282155	0.62	0.534	-.0377428	.0728597
Production	.0707986	.0497291	1.42	0.155	-.0266687	.1682658

Authors' Calculations:2021 (STATA)

Table 36 above shows the average marginal effects of factors determining credit repayment rate among the beneficiaries of microfinance credit in the study area. Factors that significantly

influenced the credit repayment rate in the study area were; sex, education, the sufficiency of the loan, extension services, distance and amount of credit received.

The average marginal effects observed from Table 36 show that the sex of borrowers significantly determines the loan repayment rate at a (10%) significance level. All things kept constant; a unit increase in men decreases the loan repayment rate by at least (6%). This could be because a majority of the respondents were men and also that men are socially less responsible than women.

The level of education of the borrowers was found to influence the repayment rate of the microloans positively. When all other factors are held constant, a unit increase in the level of education for borrowers increases the loan repayment rate by (2.3%) at a 10% significance level. The findings align with Moshabele (2005) results, who found that higher educational levels decreased default rate, and it was suggested that literacy levels increase financial literacy. Higher educational levels of smallholder farmers enhance the farmers to understand better farming technologies, increasing production and the higher repayment rate (Jote, 2018; Shu-Teng et al., 2015).

The sufficiency of the loan given to the farmers significantly determined the loan repayment rate at a 1% significance level. The average marginal effects from Table 36 show that when all other factors are held constant, a unit increase in the satisfaction level of the loan disbursed decreases the loan repayment rate by (2%). The result aligns with the prediction made earlier. The respondents explained that they were able to top up non-sufficient loans which helped them to easily repay the loan and be able to self-sustain without entirely depending on the credit from year to year.

Observed from the results abut extension services offered to the borrowers is that a unit increase in the packages of extension services for farmers decreases the repayment rate by (2%). The type of extension services offered significantly determines the loan repayment rate at a 1% significance level. The implication is that extension services provided to the borrowers had a significant effect on the repayment rate. Extension services increase awareness of farming techniques and relevant strategies of growing production and navigating markets hence the significant effect on the borrowers' repayment rate. In the study area, most farmers learnt technical skills on their own, especially maize farmers, because of their remoteness.

The distance borrowers travel to the nearest MFI institution negatively influences the loan repayment rate at a 1% significance level. When all other factors are held constant, a unit increase of the kilometres travelled by borrowers to the nearest MFI branch decreases the loan repayment rate by 10%. Jote (2018) concluded that the nearness of borrowers' residences to MFI institutions positively influenced the loan repayment rate because it was easy for MFI officials to monitor close by borrowers.

The amount of credit received by borrowers also determines the loan repayment rate of the farmers in the study area. The average marginal effects show that when all other factors are held constant, a unit increase in the amount of credit received reduces the loan repayment rate in the study area by (6%) and 1% significance level. Findings from Moshabele (2005) show that an increase in the loan amounts received by each borrower increased the default rate by (52.5%), which meant that farmers were given more money default payments mainly due to low production and misuse of funds.

4.6 Assessing the challenges faced by microfinance clients inhibiting the success of smallholder farmers.

When conducting data collection, the beneficiaries were asked if they encountered problems that threatened their enterprises' expansion. They were interviewed using closed and open-ended questions with a choice that included poor financial literacy, insufficient loan amount, lack of market for products, lack of business management skills and other challenges. The respondents opened up and stated that other challenges they faced while running their enterprises inhibiting their expansion. They mentioned multitasking (working in their workplaces and enterprises simultaneously), volatile market prices of maize, natural disasters (including drought mainly), transport scarcity of carrying produce to the market, lack of fence and small cultivation areas.

4.6.1 Challenges faced by beneficiaries of microfinance inhibiting the expansion of their enterprises

Table 37 Challenges faced by beneficiaries of microfinance hindering expansion of their enterprises

Challenges	Cases	Percent	Percent of Cases
Poor financial literacy	14	10.7%	11.8%
Insufficient loan amount	49	37.4%	41.2%
Lack of Market for products	35	26.7%	29.4%
Lack of business management skill	9	6.9%	7.6%
Other challenges	24	18.3%	20.2%
Total responses and percentages	131	100.0%	110.1%

Authors' calculation:2021 (SPSS)

POOR FINANCIAL LITERACY

Table 37 summarises the main challenges faced by beneficiaries of microfinance. Farmers who cited poor financial literacy as their problem were 14, which was (11.8%) of the cases. Sebatta et al. (2014) explained that educated smallholder farmers could read and understand financial markets. Sebatta et al. (2014) continued to explain that education is an empowerment tool. It empowers and gives confidence; hence, the farmers would have made wise decisions on investing the money.

Gender

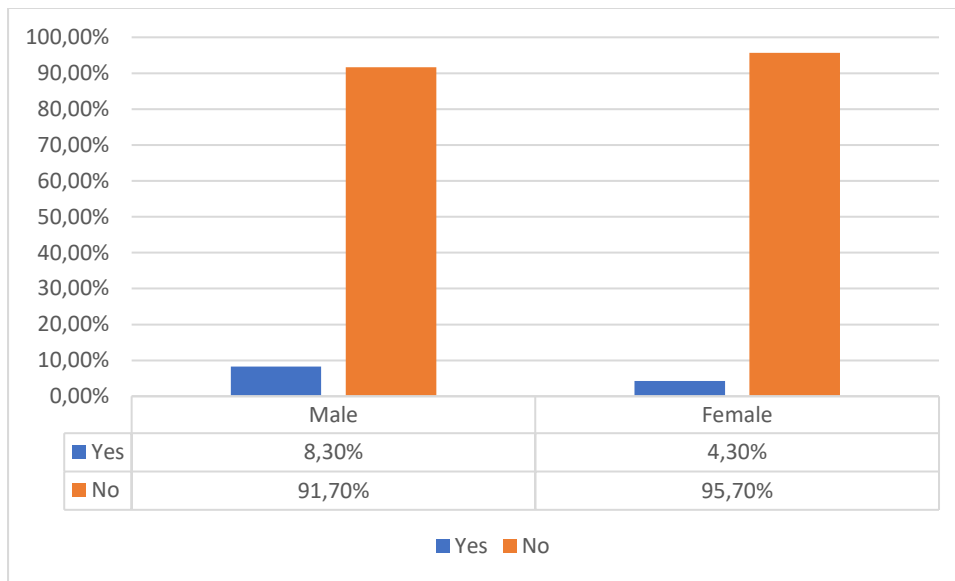|	Male	Female
■ Yes	8,30%	4,30%
■ No	91,70%	95,70%

■ Yes ■ No

Figure 15:Gender Relating to Financial Literacy

Figure 15 shows that only (8.3%) of men and (4.3%) of women encountered financial literacy problems which inhibited the expansion of their enterprises.
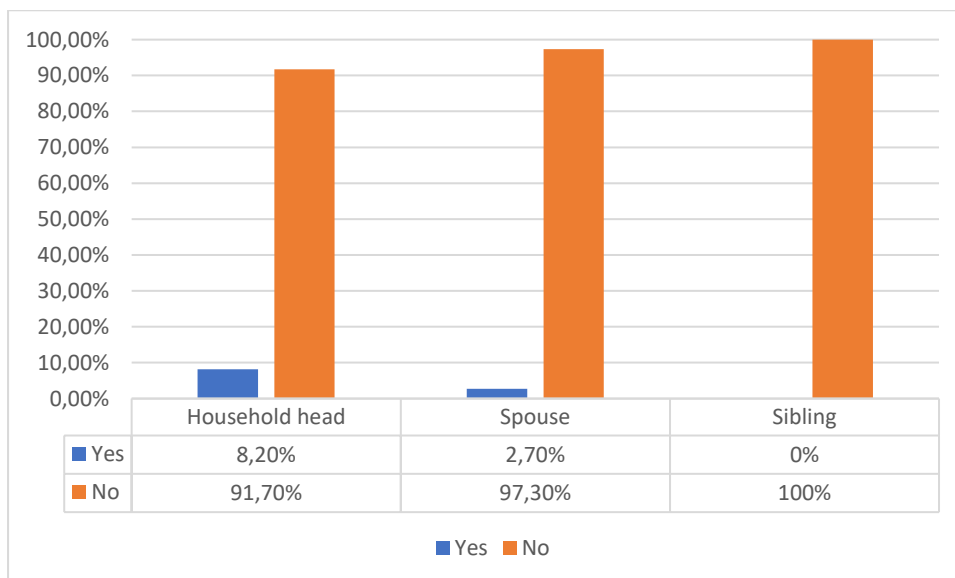
Position in the household

	Household head	Spouse	Sibling
■ Yes	8,20%	2,70%	0%
■ No	91,70%	97,30%	100%

■ Yes ■ No

Figure 16:Position in the Household Relating to Financial Literacy

Figure 16 shows that only (8.2%) of household heads struggle with poor financial literacy. In contrast, only (2.7%) of spouses cited poor financial literacy as a problem in this study. Spouse

is different to the household head in the sense that a woman cannot be a household head culturally while the husband is still alive.
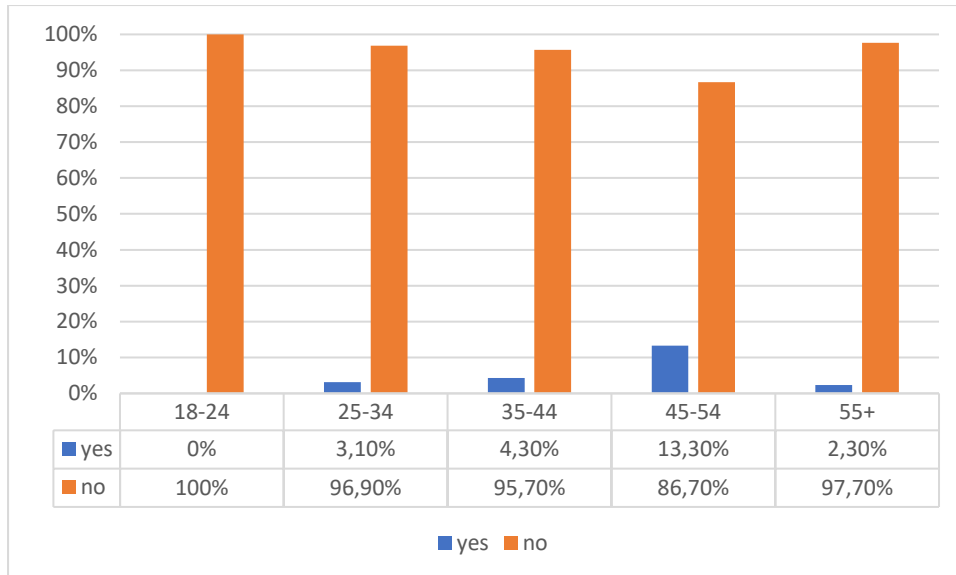
Age

	18-24	25-34	35-44	45-54	55+
■ yes	0%	3,10%	4,30%	13,30%	2,30%
■ no	100%	96,90%	95,70%	86,70%	97,70%

■ yes ■ no

Figure 17:Age Relating to Financial Literacy

Figure 17 shows that the mature-aged (45-54) group were the ones who faced more financial literacy problems as they ran their businesses. About (13.3%) of them cited financial literacy as their problem, while (4.3%) of the age group 35-44 cited the same problem. About (3.1%) of respondents aged 25-34 and (2.3%) of respondents aged 55+ years respectively had the same problem.
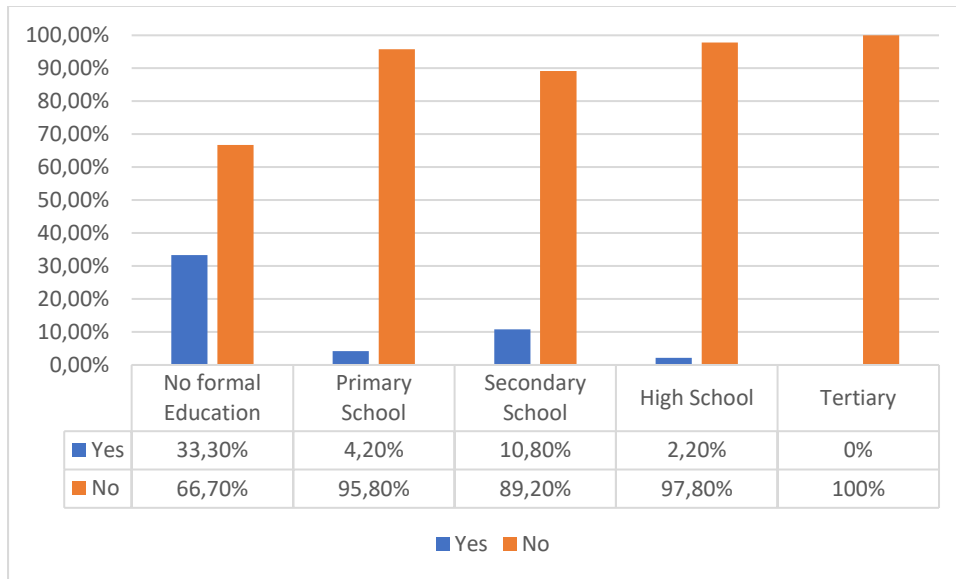
Educational level

Figure 18:Educational Level Relating to Financial Literacy

Of the 14 farmers affected by financial literacy, Figure 18 shows that (10.8%) dropped out of school at the secondary level. At the same time, (33.3%) of them had no formal education, and (4.2%) dropped out at primary school and (2.2%) at tertiary level.
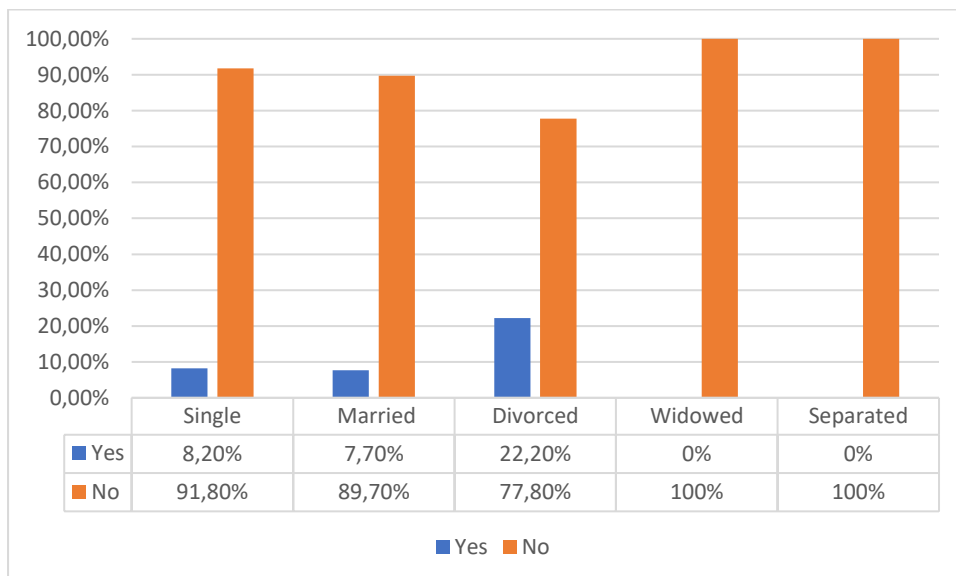
Marital status

Figure 19:Marital Status Relating to Financial Literacy

Figure 19 shows that (7.7%) of married farmers were affected mainly by financial literacy. A majority of (22.2%) of divorced farmers were financially illiterate while (8.2%) of single farmers were affected by financial literacy.
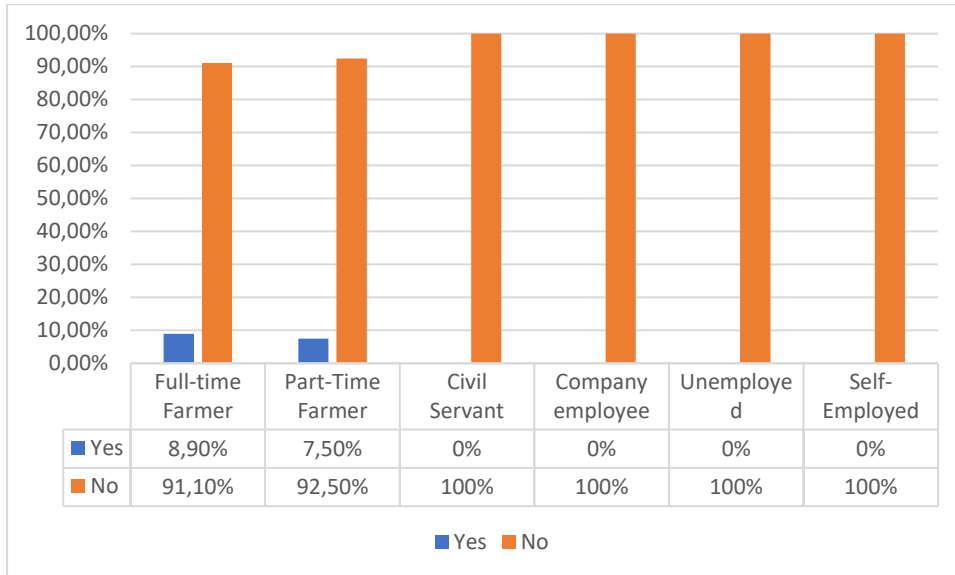
Occupation

	Full-time Farmer	Part-Time Farmer	Civil Servant	Company employee	Unemployed	Self-Employed
■ Yes	8,90%	7,50%	0%	0%	0%	0%
■ No	91,10%	92,50%	100%	100%	100%	100%

■ Yes ■ No

Figure 20:Occupation Relating to Financial Literacy

Figure 20 shows that from the occupation categories of the farmers, only two groups were affected by a lack of financial literacy. That is (8.9%) of beneficiaries who were full-time farmers and (7.5%) of part-time farmers.
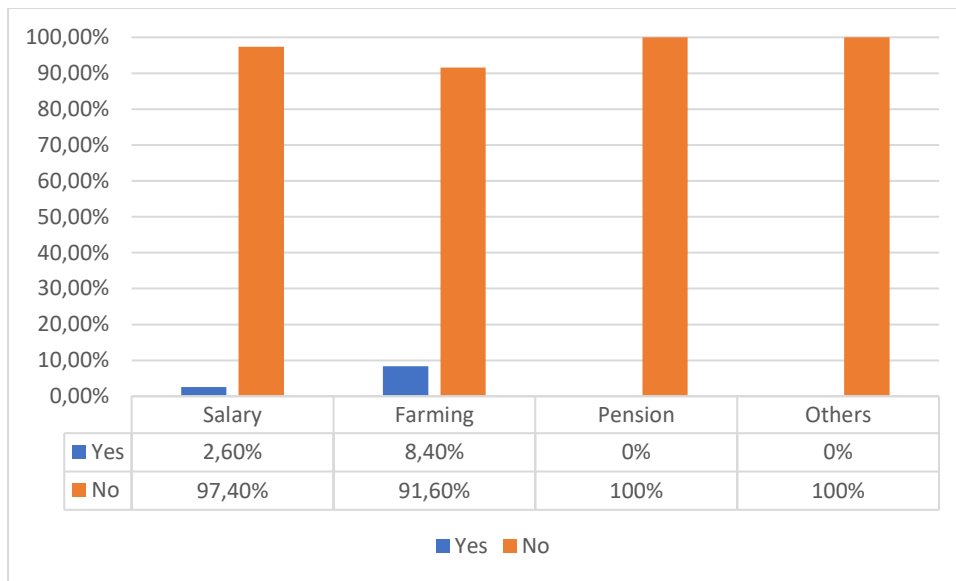
Source of income

Figure 21:Farmers' Source of Income Relating to Financial Literacy

Figure 21 shows that only respondents who received income from salaries and farming experienced difficulties with financial literacy. Only (2.6%) of beneficiaries who received salaries encountered financial literacy problems, while (8.4%) who received income from farming experienced the same problem.
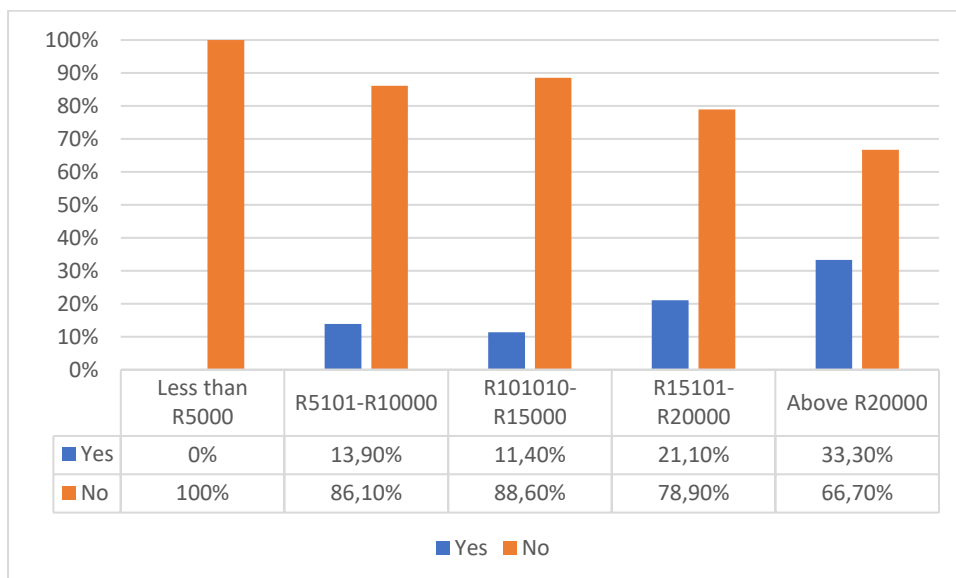
Monthly income

Figure 22:Farmers' Monthly Income Relating to Financial Literacy

Figure 22 shows that from the monthly income bracket, (13.9%) of beneficiaries who have an income between R5 101 – R10 000 encountered a poor financial literacy problem. At the same time, (11.4%) of them in the brackets between R10 101-R15000 and (21.1%) of them in the R15 101-R20 000 bracket respectively also encountered the poor financial literacy problem. Only (33.3%) of farmers who earned above R20 000 encountered issues in expanding their enterprise because of poor financial literacy.

Tenure status

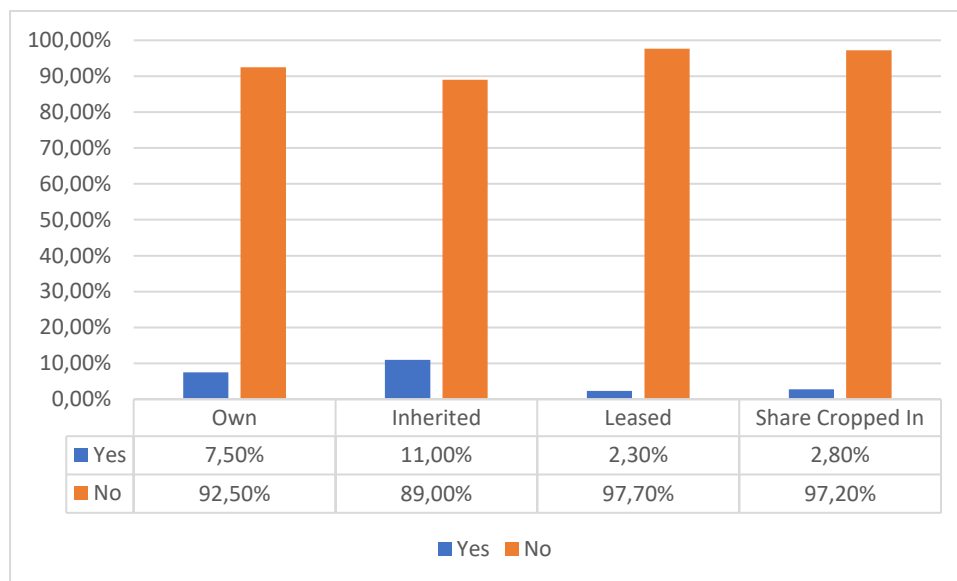|	Own	Inherited	Leased	Share Cropped In
■ Yes	7,50%	11,00%	2,30%	2,80%
■ No	92,50%	89,00%	97,70%	97,20%

■ Yes ■ No

Figure 23:Farmers' Tenure Status Relating to Financial Literacy

Respondents who encountered poor financial literacy problems mostly were farmers who inherited the land they used for farming (11%). While (7.5%) of them owned the land, and (2.3%) had leased land to another (2.8%)'s share was cropped in the main farm. Figure 23 summarised the findings.

Type of land

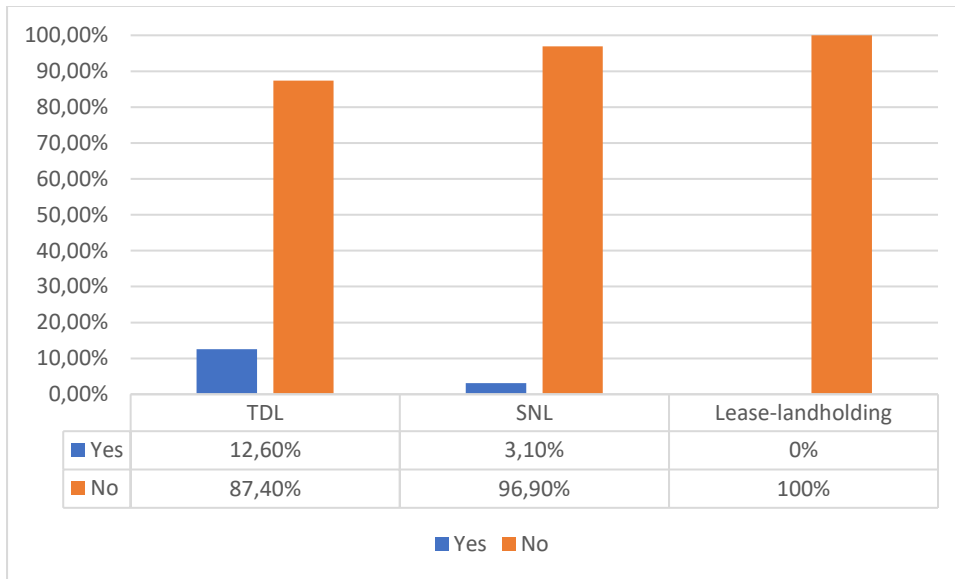|	TDL	SNL	Lease-landholding
■ Yes	12,60%	3,10%	0%
■ No	87,40%	96,90%	100%

Figure 24:Farmers' Type of Land Relating to Financial Literacy

Figure 24 shows that farmers affected by the financial literacy problem that inhibited the expansion of their enterprises mostly, were farmers who practised crop production on Title Deed Land (12.6%) of them). In contrast, only 3.1% of farmers who practised farming on Swazi Nation Land also encountered financial literacy problems in their businesses.

Size of farm

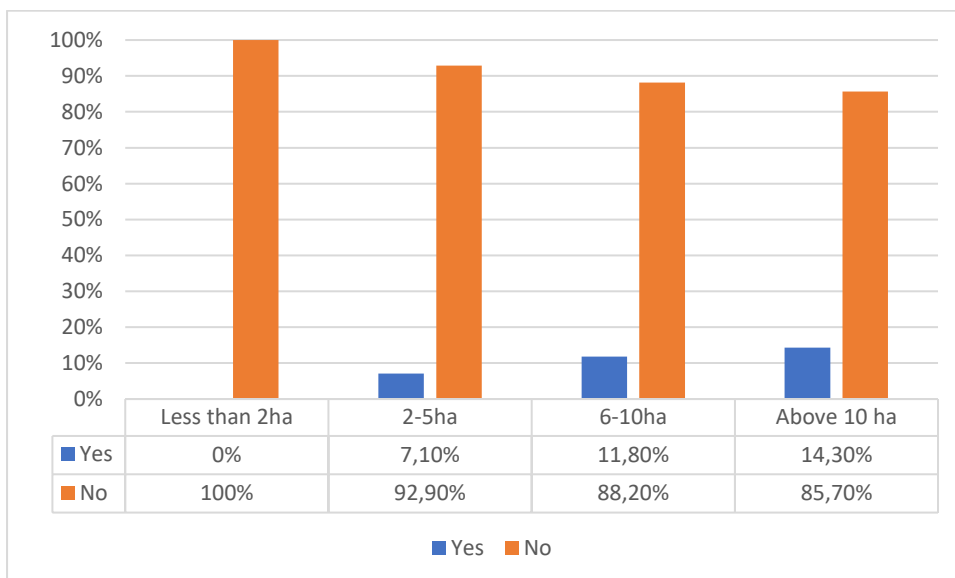|	Less than 2ha	2-5ha	6-10ha	Above 10 ha
■ Yes	0%	7,10%	11,80%	14,30%
■ No	100%	92,90%	88,20%	85,70%

Figure 25:Farmers' Farm Size Relating to Financial Literacy

Figure 25 shows that only (7.1%) of farmers whose land size was between 2-5ha encountered problems in financial literacy, while (11.8%) of them had a farm size between 6 – 10ha. The financial literacy problem was most common between farmers who owned above 10ha of land (15.6%).

INSUFFICIENT LOAN AMOUNT

The insufficient loan amount troubled microfinance beneficiaries primarily as 41.2%, 49 of the respondents cited to encounter such a problem. During telephonic conversations with the farmers, they stated that insufficient loan amounts hugely inconvenienced them because the short loans limited the farmers choice of investment. They continued to say that with the bit of investment they would have made, the profits would be scanty, and almost all of it goes back to the MFI, limiting their expansion a nd increasing chances of dependency on MFI's. Table 34 shows the selected descriptive characteristics of the beneficiaries and how they were affected by insufficient loan amounts.

Gender

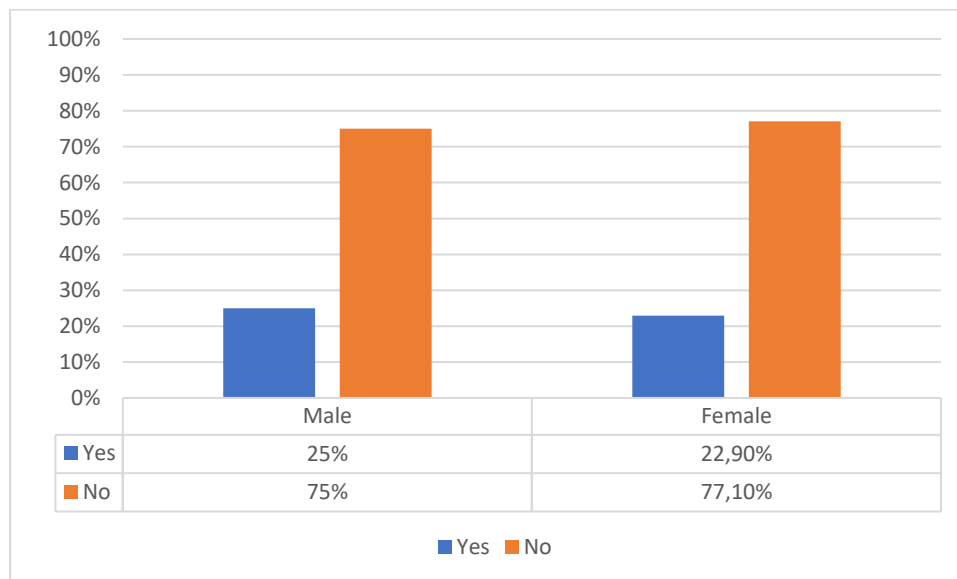|	Male	Female
Yes	25%	22,90%
No	75%	77,10%

Figure 26:Gender Relating to Insufficiency of Loan Amount

Figure 26 shows that only (25%) of males and (22.9%) of females were affected by receiving insufficient loan amounts from their MFI's.

Position in the household

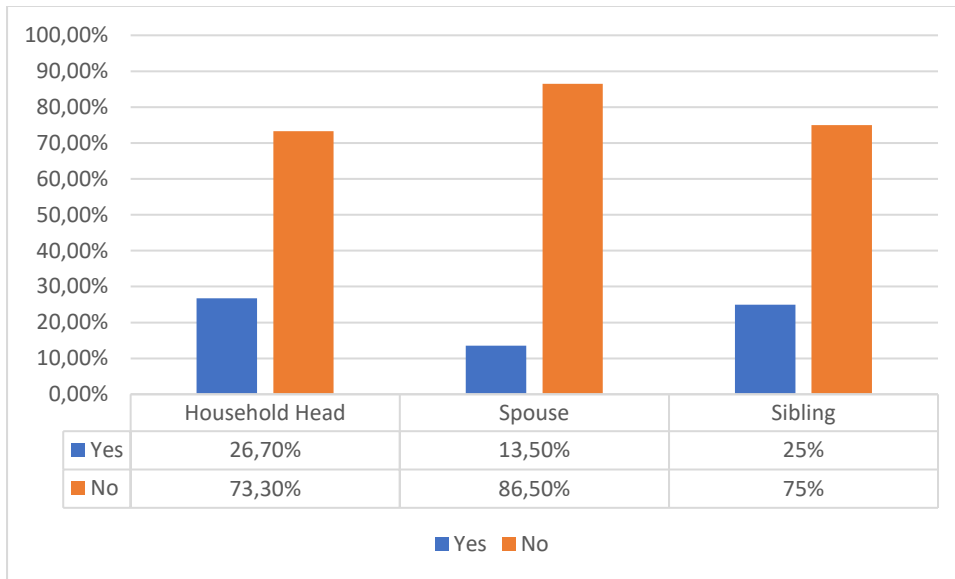|	Household Head	Spouse	Sibling
■ Yes	26,70%	13,50%	25%
■ No	73,30%	86,50%	75%

Figure 27:Position in the Household Relating to Insufficiency of Loan Amount

Figure 27 shows that about (26.7%) of household heads were affected by insufficient loan amounts, while (25%) of siblings in a household also were affected as well as (13.5%) of spouses.

Age

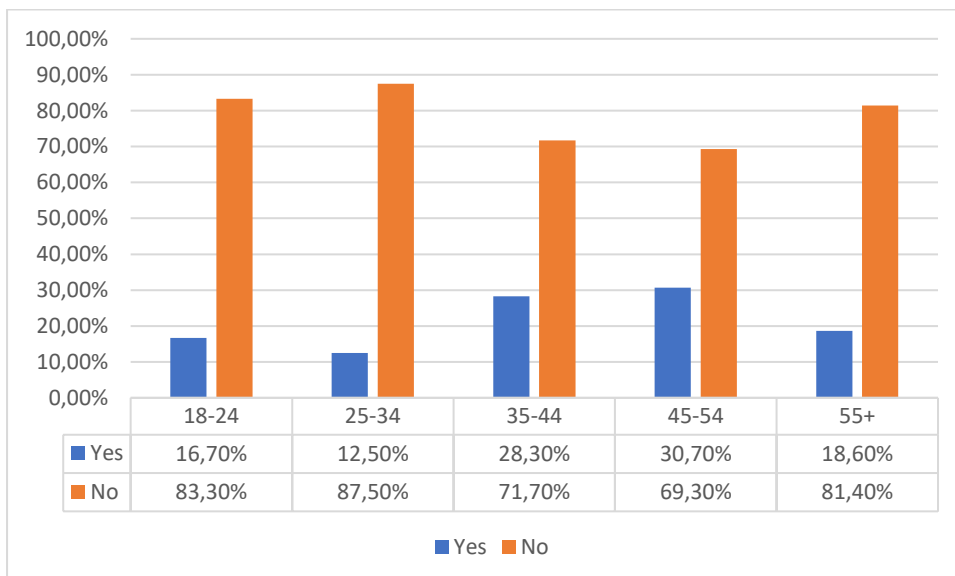|	18-24	25-34	35-44	45-54	55+
■ Yes	16,70%	12,50%	28,30%	30,70%	18,60%
■ No	83,30%	87,50%	71,70%	69,30%	81,40%

Figure 28:Age Relating to Insufficiency of Loan Amount

Figure 28 reflects that of the 49 respondents who faced the insufficient loan amount problem, (16.7%) of the respondents were 18-24 years old. From the age group 25-34, only (12.5%)

respondents complained about short loan amounts, while (28.3%) respondents who had a similar problem were 35-44 years old. The most group to encounter insufficient loan amount as a problem was the 45-54 years group (30.7%). Respondents over 55 years old who faced this problem were only (18.6%).
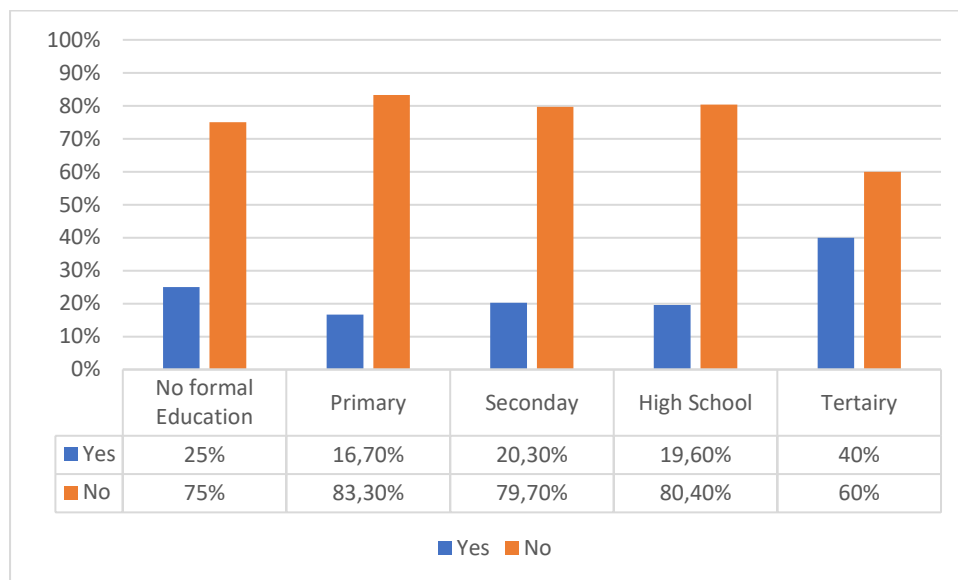
Educational Level

Figure 29:Educational Level Relating to Insufficiency of Loan Amounts

The least respondents who faced insufficient loan amounts problem were (25%) of 49 respondents, Figure 29 summarised the findings. Respondents who encountered such a problem and made it far to primary school were (16.7%), while other affected respondents by the same issue were (20.3%) who dropped out at secondary school. High school dropouts who faced challenges in insufficient loan amounts were (19.6%), and finally, respondents who made it far to tertiary and encountered the same problem were (40%).
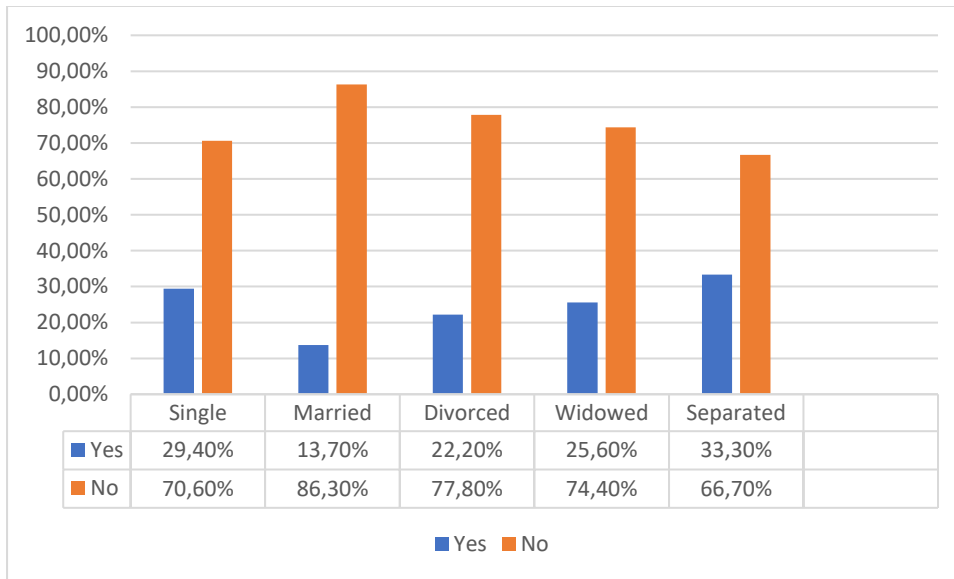
Marital Status

Figure 30:Marital Status Relating to Insufficiency of Loan Amounts

Figure 30 shows that of the 49 total respondents who faced challenges in receiving insufficient loan amounts, (29.4%) were single, and the most affected by this problem (33.3%) of them were separated from their partners. Divorced and married respondents challenged by insufficient loan amounts were only (22.2%), while (25.6%) were widowed.
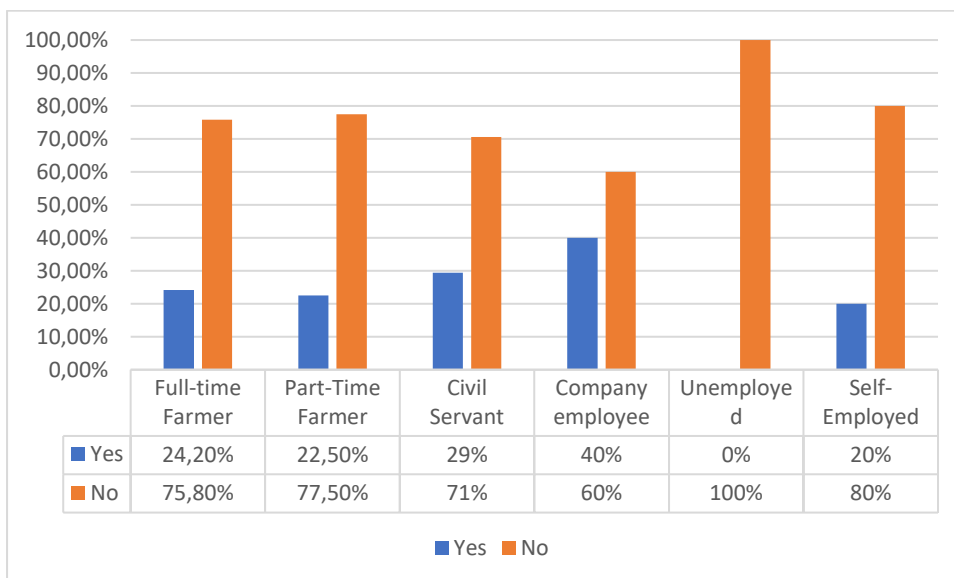
Main occupation

Figure 31:Occupation of Farmers Relating to Insufficiency of Loan Amounts

Figure 31 shows that full-time farmers who encountered insufficient loan amount challenges were (24.2%) of 49 total respondents. Only (22.5%) part-time farmers cited this challenge, while (29%) of civil servants also experienced difficulties in receiving insufficient loan amounts. Company employees with a similar challenge were (40%), along with (20%) of self-employed respondent. Unemployed respondents did not cite insufficient funds as one of their problems.
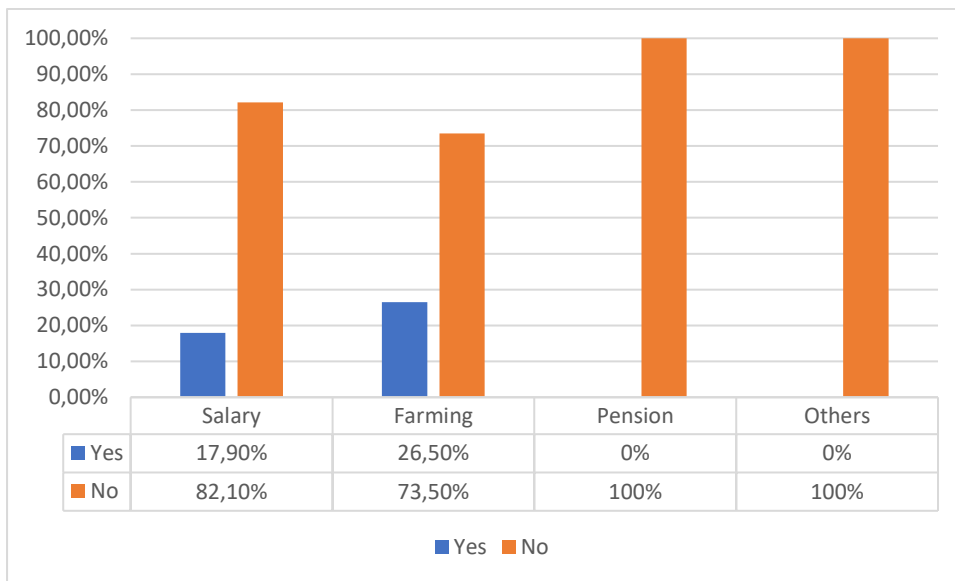
Major source of income

Figure 32:Farmers' Source of Income Relating to Insufficiency of Loan Amounts

Of 49 respondents, beneficiaries who faced challenges in receiving insufficient loan amounts were (17.9%) who had incomes from salaries, while (26.5%) earned their income from farming. Pensioners and farmers who received income from other unspecified sources did not have a challenge with receiving insufficient loan amounts from MFI's. Findings shown on Figure 32.
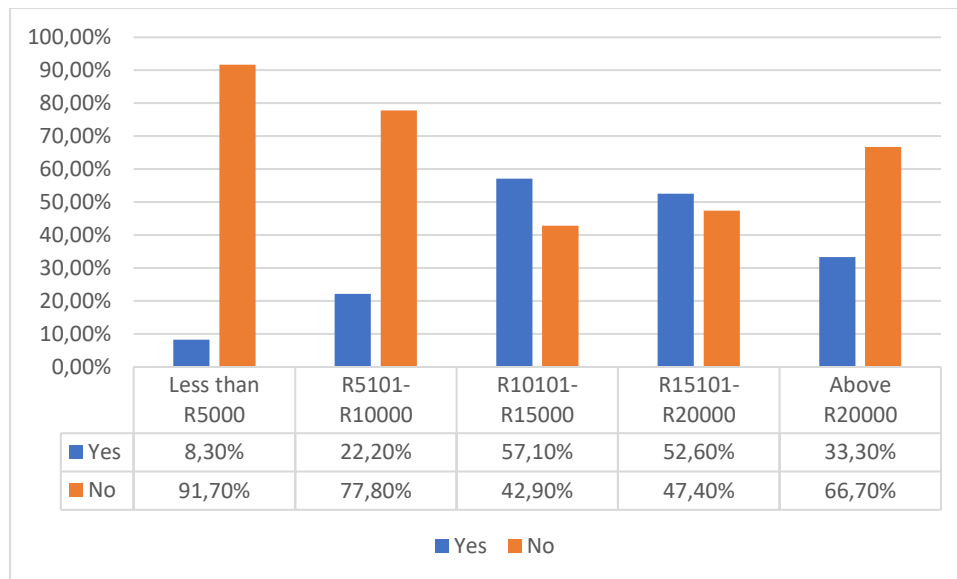
Estimated monthly income

Figure 33:Farmers' Estimated Monthly Income Relating to Insufficiency of Loan Amounts

Figure 33 shows that about (8.3%) of respondents who earned less than R5000 per month mentioned receiving insufficient loan amounts as a challenge inhibiting the growth of their enterprises. Respondents who received an income of between R5101-R10000 with a similar problem were (22.2%), and (57.1%) received a monthly income between R10101-R15000. Also, respondents who were challenged by receiving insufficient loan amounts who earned an income between R15101-R20000 were (52.6%) and only (33.3%) who made above R20000 monthly was challenged by receiving insufficient loan amounts.

Tenure Status

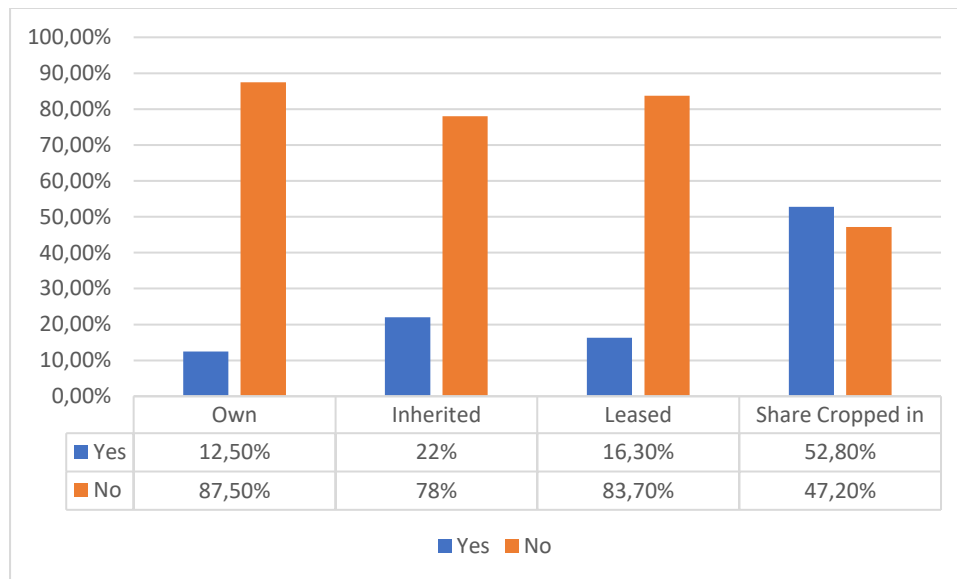|	Own	Inherited	Leased	Share Cropped in
■ Yes	12,50%	22%	16,30%	52,80%
■ No	87,50%	78%	83,70%	47,20%

Figure 34:Farmers' Tenure Status Relating to Insufficiency of Loan Amounts

Figure 34 shows that, about (12.5%) beneficiaries who owned their farmland received insufficient loan amounts, while (22%) of the beneficiaries who inherited land also mentioned the same problem. About (16.3%) of farmers who were leased land and were challenged by insufficient loan amounts, and (52.8%) other farmers with the same problem practised their crop production on sharecropped inland.

Type of land used

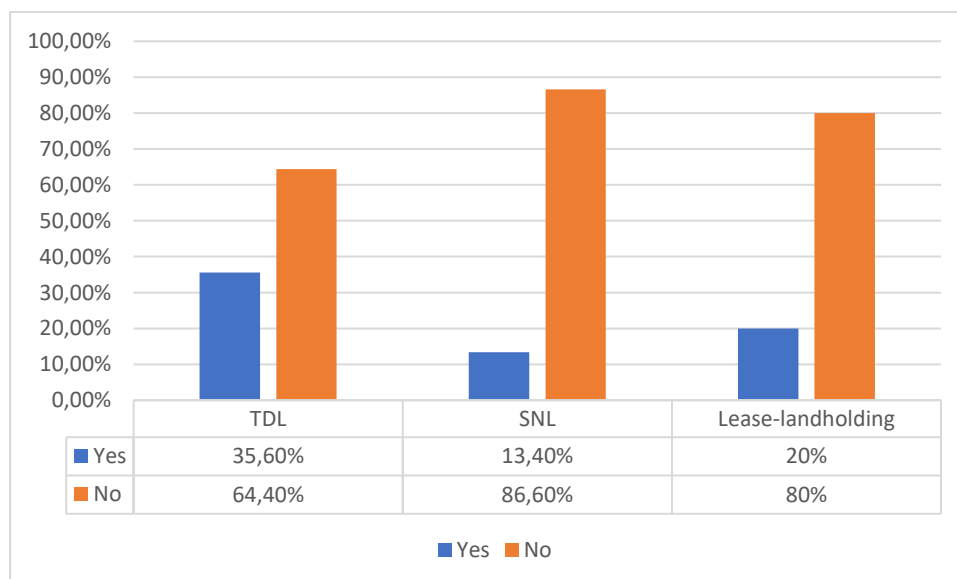|	TDL	SNL	Lease-landholding
■ Yes	35,60%	13,40%	20%
■ No	64,40%	86,60%	80%

Figure 35:Farmers' Type of Land Relating to Insufficiency of Loan Amounts

Farmers on Title Deed Land who were challenged by insufficient loan amounts were (35.6%), while those challenged by the same problem on Swazi Nation Land (13.4%) from a total of 49 cases and (20%) of farmers from lease-landholding. Figure 35 summarises the findings.

Size of farmland

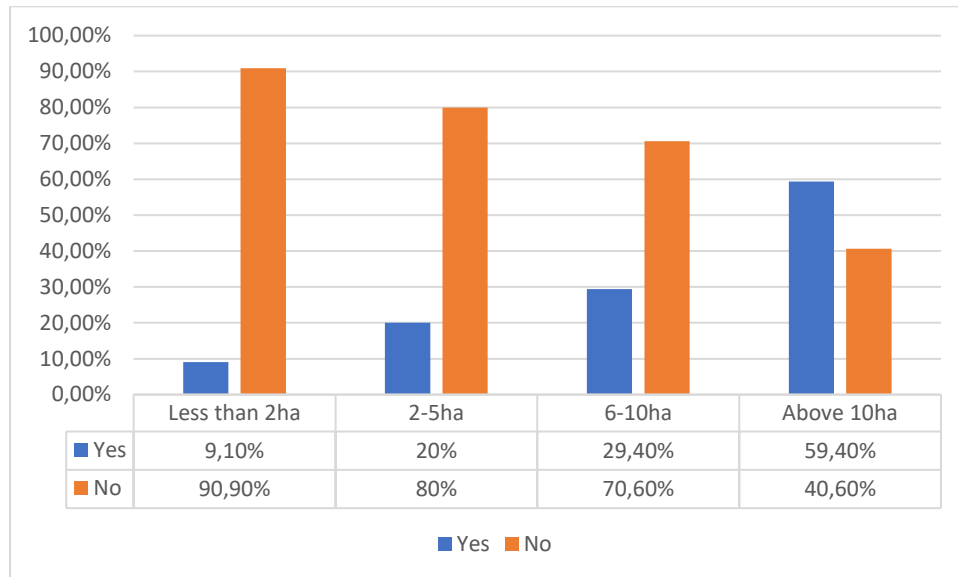|	Less than 2ha	2-5ha	6-10ha	Above 10ha
■ Yes	9,10%	20%	29,40%	59,40%
■ No	90,90%	80%	70,60%	40,60%

■ Yes ■ No

Figure 36:Farmers' Size of Farmland Related to Insufficiency of Loan Amounts

Figure 36 shows that about (9.1%) of farmers with less than 2ha complained about receiving insufficient loan amounts from MFIs, and (20%) of who had land between 2-5 ha also encountered this problem. Farmers who produced crops on land between 6-10 ha who also received insufficient loan amounts were (29.4%), and (59.4%) beneficiaries who cultivated land above 20 ha complained about receiving insufficient loan amounts.

LACK OF MARKET FOR PRODUCTS

Growing produce and then have nowhere to sell your produce' worries the farmers primarily as 35 of them, which is 29.4% experienced such a problem. These farmers were challenged mainly by dry maize, who mentioned that they were not happy with the NMC (National Maize Corporation) market; hence, it was challenging to find the market elsewhere. The following Figures summarises the type of farmers most affected by this problem using their socio-economic characteristics.

Gender

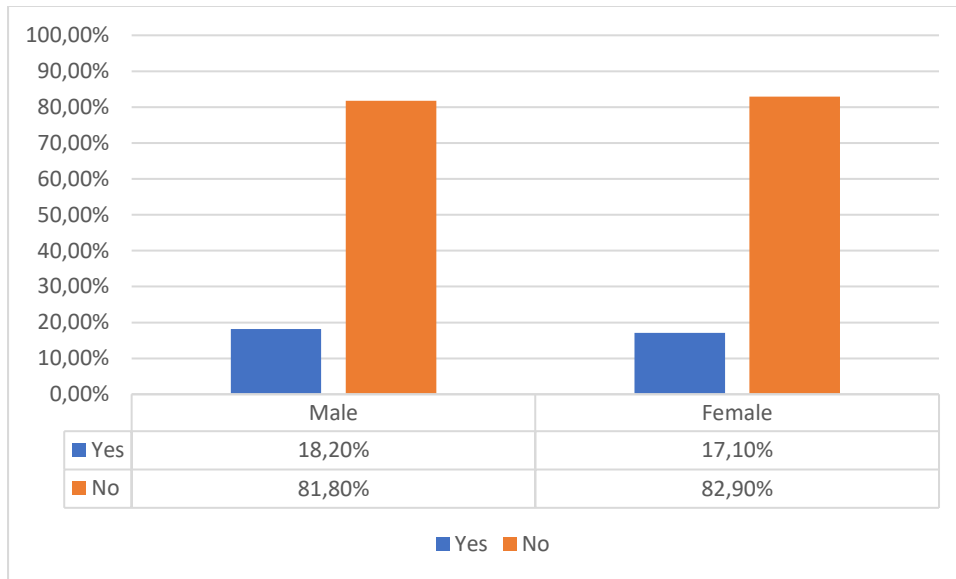|	Male	Female
Yes	18,20%	17,10%
No	81,80%	82,90%

Figure 37:Gender relating to Lack of Markets

Only 36 farmers mentioned having difficulties selling their products, and 18.2% of them were males and 17.1% females, as shown on Figure 37.

Position in the household

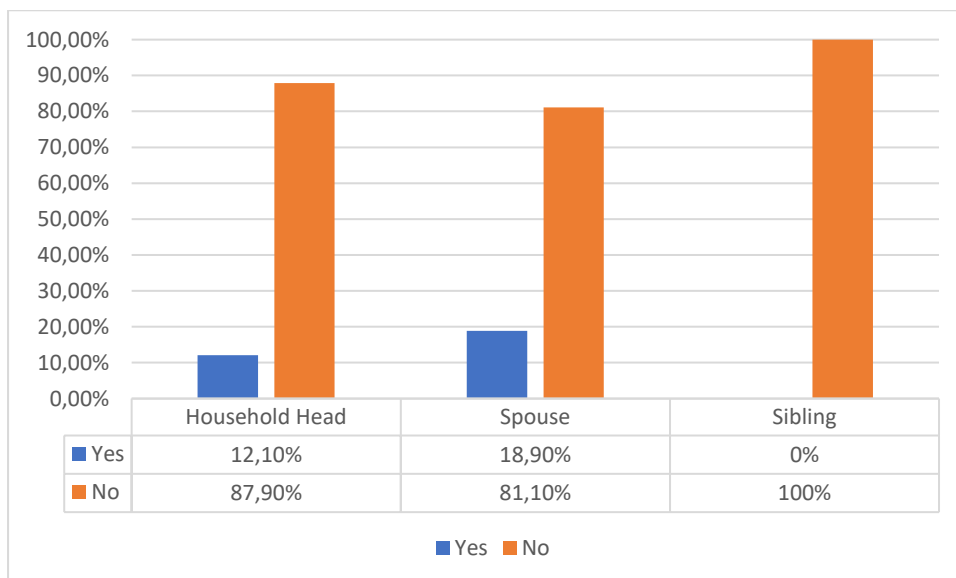|	Household Head	Spouse	Sibling
Yes	12,10%	18,90%	0%
No	87,90%	81,10%	100%

Figure 38:Position in the Household Relating to Lack of Markets

Figure 38 shows that only (12.1%) of household heads were challenged by the lack of markets in the Lubombo Region, and (18.9%) of spouses as well affected by the lack of markets issue.

Age

Figure 39:Age Relating to Lack of Markets
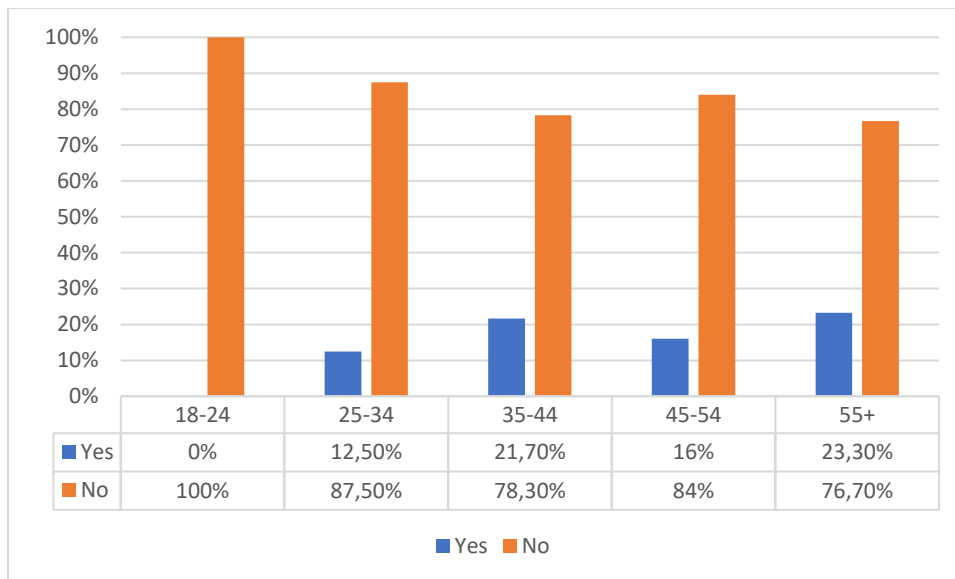
Figure 39 shows that (12.5%) of farmers aged between 25-34 who experienced lack of market for their produce along with 21.7% of farmers between the ages of 35-44 years. Most affected were farmers aged 55+ (23.3%) while only (16%) of farmers aged between 45-54 years experienced scarcity of markets.
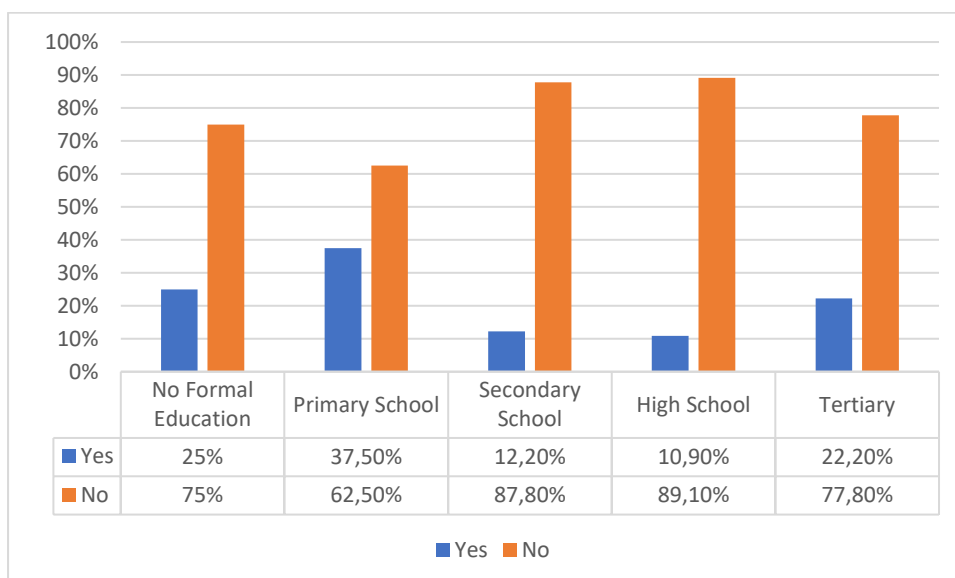
Educational Levels

Figure 40:Educational Level Relating to Lack of Markets

Only (25%) of farmers with no formal education experienced a lack of market challenges as shown by Figure 40 above. Meanwhile, (37.5%) farmers who dropped out of primary school and (12.2%) of farmers who dopped out of secondary school both explained that they faced similar challenges. About (10.9%) of high school dropouts cited lack of markets as a challenge inhibiting the expansion of their enterprises and (22.2) % who went as far as tertiary institutions who lacked markets for their produce.

Marital status

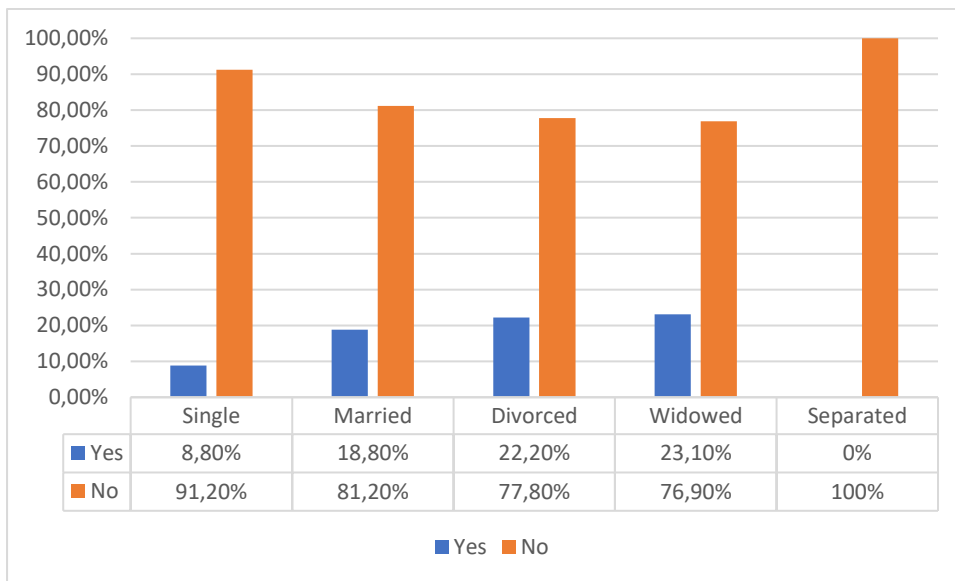|	Single	Married	Divorced	Widowed	Separated
■ Yes	8,80%	18,80%	22,20%	23,10%	0%
■ No	91,20%	81,20%	77,80%	76,90%	100%

■ Yes ■ No

Figure 41:Marital Status Relating to Lack of Markets

Figure 41 shows that, only (8.8%) of single beneficiaries of microfinance encountered challenges in accessing markets, while (18.8%) of married farmers also experienced scarcity in finding markets for their produce. Only (22.2%) of divorced respondents failed to access markets, along with (23.1%) of widowed beneficiaries.

Main Occupation

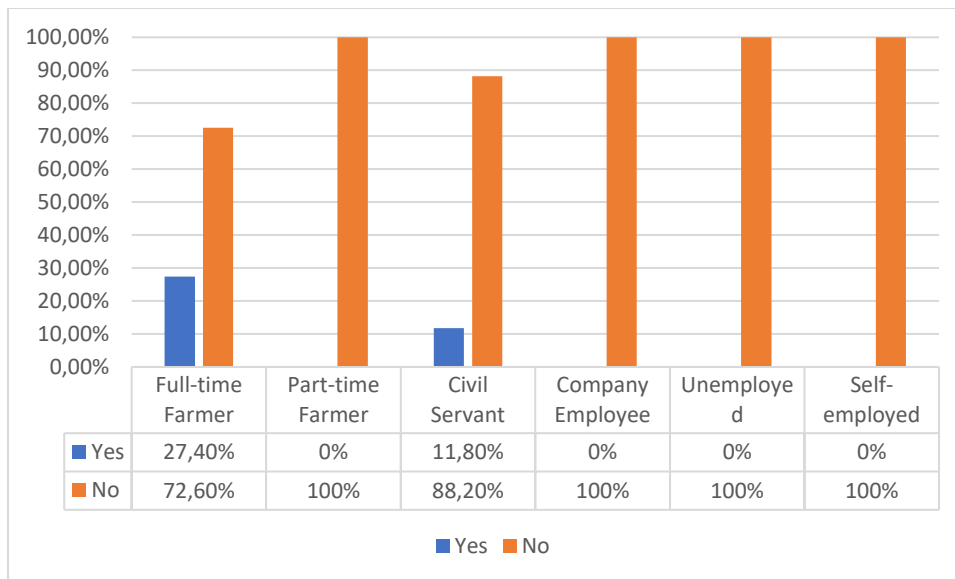|	Full-time Farmer	Part-time Farmer	Civil Servant	Company Employee	Unemployed	Self-employed
■ Yes	27,40%	0%	11,80%	0%	0%	0%
■ No	72,60%	100%	88,20%	100%	100%	100%

■ Yes ■ No

Figure 42:Farmers' Occupation Relating to Lack of Markets

Only (27.4%) of full-time farmers and (11.8%) civil servants encountered challenges in accessing markets for their produce in the Lubombo Region as shown by Figure 42.

Major Source of Income

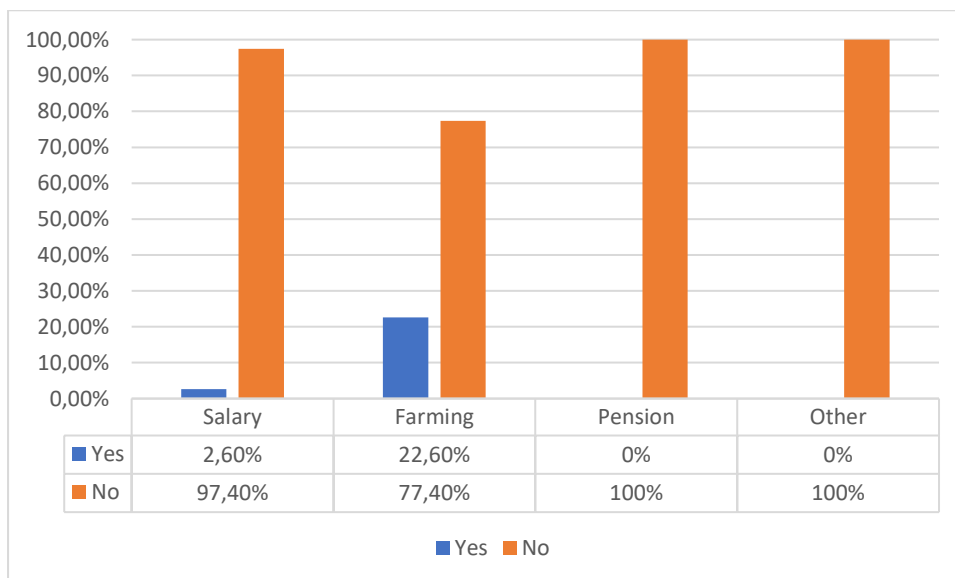|	Salary	Farming	Pension	Other
■ Yes	2,60%	22,60%	0%	0%
■ No	97,40%	77,40%	100%	100%

■ Yes ■ No

Figure 43:Farmers' Major Source of Income Relating to Lack of Markets

Figure 43 shows that only (2.6%) of beneficiaries earned from a salary indicated to have challenges in accessing markets, and (22.6%) of other beneficiaries who earned from their farming enterprises also mentioned facing challenges in accessing markets for their produce.

Estimated monthly income

	Less than R5000	R5101 - R10 000	R10 101 - R15 000	R15 101 - R20 000	Avove R20 000
■ Yes	15,70%	22,20%	17,10%	26,30%	0%
■ No	84,30%	77,80%	82,90%	73,70%	100%

■ Yes ■ No
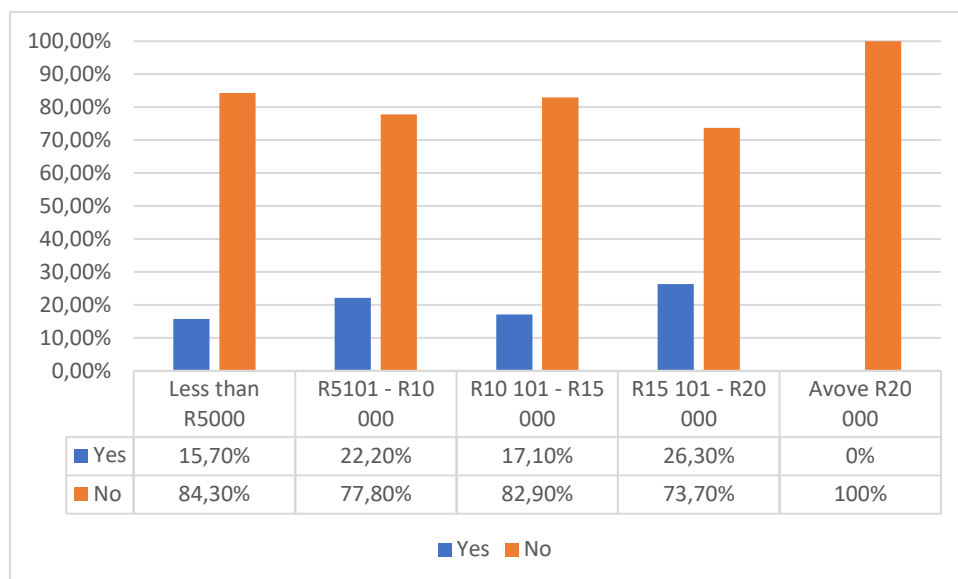
Figure 44:Farmers' Monthly Income Relating to Lack of Markets

Figure 44 shows that the least earning farmers received an income of less than R5000 monthly; (15.7%) of them cited the lack of markets as a challenge that threatens their expansion. About (22.2%) of farmers made between R5 101-R10000 and faced challenges in penetrating markets while (17.1%) of farmers receiving an income between R10101-R15000 also cited the same challenge. Only (26.3%) of farmers earning a monthly income in between R15101-R20000 also couldn't access markets.

Tenure Status

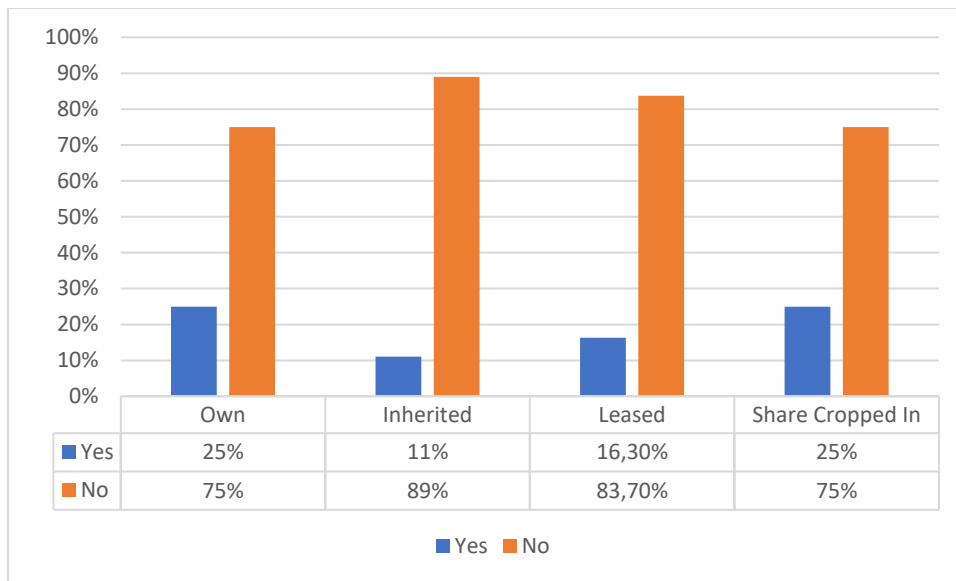|	Own	Inherited	Leased	Share Cropped In
Yes	25%	11%	16,30%	25%
No	75%	89%	83,70%	75%

Figure 45:Farmers' Tenure Status Relating to Lack of Markets

Figure 45 shows that only (25%) of farmers who owned their land voiced out lack of markets as a challenge inhibiting expansion of their businesses, while (11%) with inherited land faced a similar challenge. About (16.3%) of farmers were leased land to those who cited lack of markets as a challenge, along with (25%) of other farmers on shared land.

Type of land used

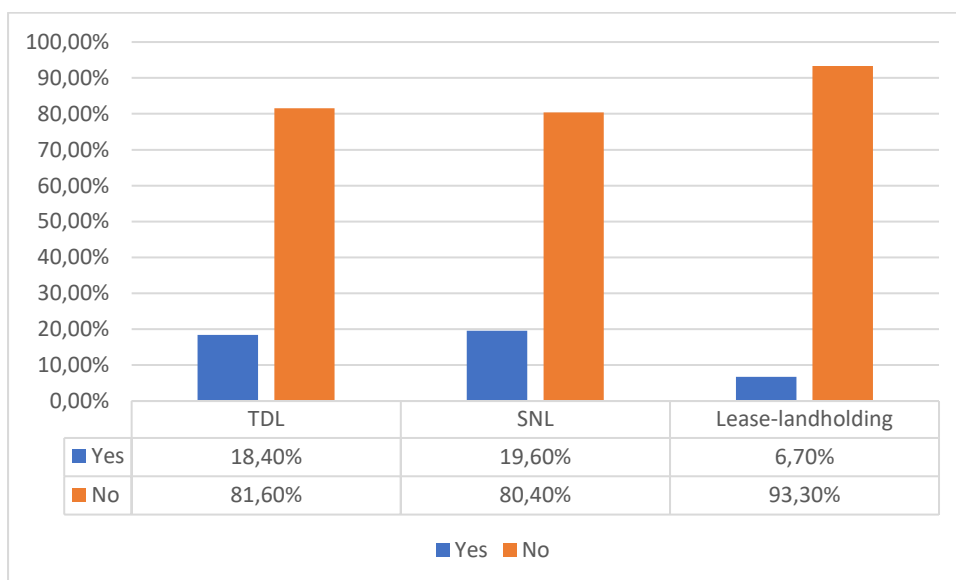|	TDL	SNL	Lease-landholding
Yes	18,40%	19,60%	6,70%
No	81,60%	80,40%	93,30%

Figure 46:Farmers Type of Land Relating to Lack of Markets

Figure 46 shows that about (18.4%) of farmers on Title Deed land experienced challenges in accessing markets, and (19.6%) of more farmers on Swazi Nation Land were also challenged by lack of markets. Only (7%) of farmer on Lease landholding faced difficulties in accessing markets.

Size of Farmland

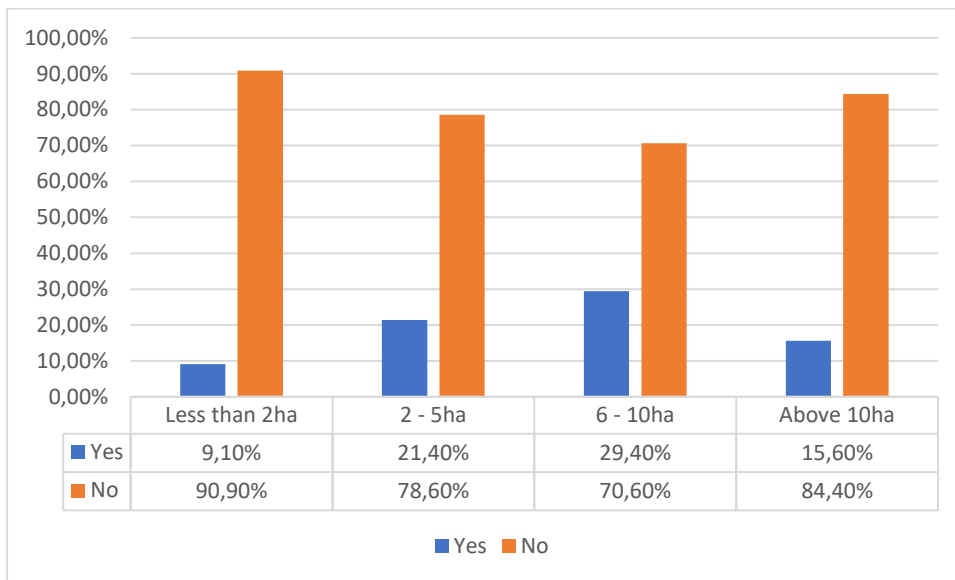|	Less than 2ha	2 - 5ha	6 - 10ha	Above 10ha
■ Yes	9,10%	21,40%	29,40%	15,60%
■ No	90,90%	78,60%	70,60%	84,40%

■ Yes ■ No

Figure 47:Farmers Size of Farmland Related to Lack of Markets

Figure 47 shows that only (9.1%) of farmers cultivated on land less than 2ha who faced difficulties in accessing markets, and (21.4%) more farmers grew on land between 2-5 ha. There was also (29.4%) of farmers with 6-10 ha who experienced challenges in accessing markets and (15.6%) of 26 farmers with above 10 ha who faced similar challenges.

LACK OF BUSINESS MANAGEMENT SKILLS

Only 7.6% of beneficiaries which is 9 of the beneficiaries, faced difficulties in lack of business management skills which inhibited the success of their enterprises. Owusu (2012) explained that lack of proper business managerial skills, lack of formal education and poor marketing skills were challenges faced mostly by microfinance beneficiaries. The following Figures summarises the different socio-economic characteristics on how they relate to the farmers' lack of business management skills.

Gender
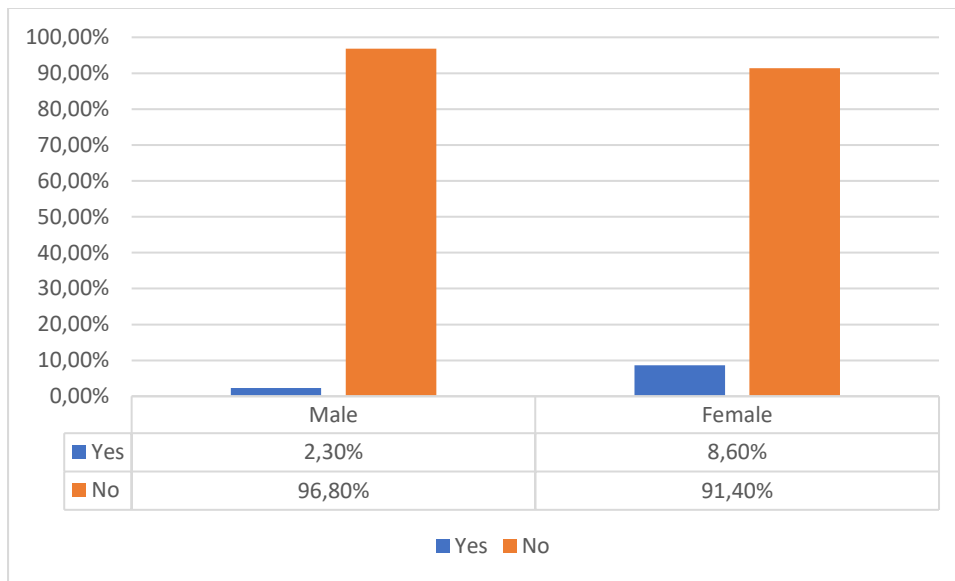
Figure 48:Gender Relating to Business Management Skills

From nine beneficiaries who stated the lack of agribusiness knowledge contributed to their non-expanding businesses, (2.3%) of them were males and (8.6%) females shows Figure 48.

Position in the household
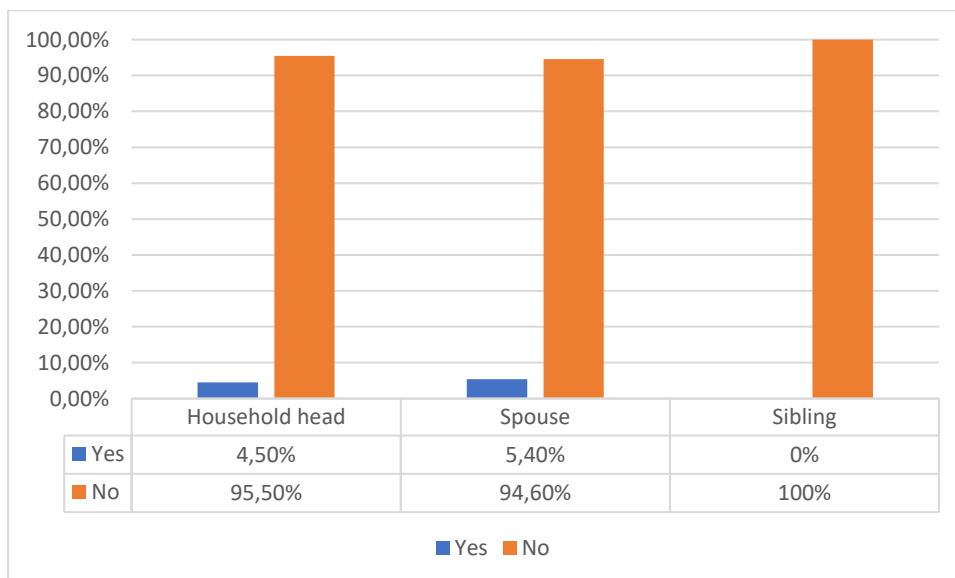
Figure 49:Position in the Household Relating to Business Management Skills

Figure 49 shows that, only (4.5%) of household heads and (5.4%) of spouses faced challenges of lacking business management skills to run their businesses.

Age
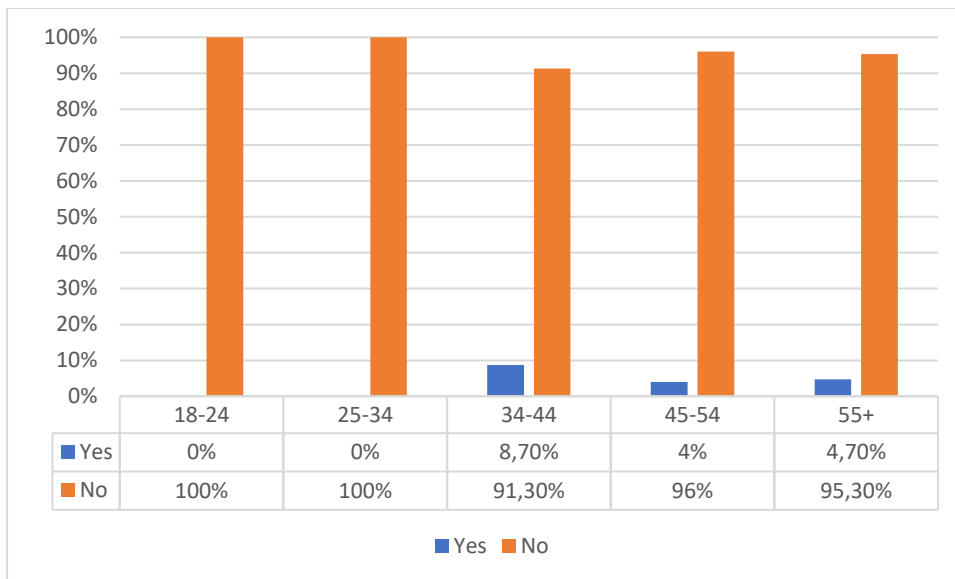
Figure 50:Farmers' Age Relating to Business Management Skills

Figure 50 shows that, only (8.7%) of beneficiaries between the ages 35-44, (4%) of beneficiaries between the ages 45-54 and lastly, (4.7%) of beneficiaries above 55 years. They all cited the lack of business management skills as the inhibiting factor to the success of their businesses.

Educational level
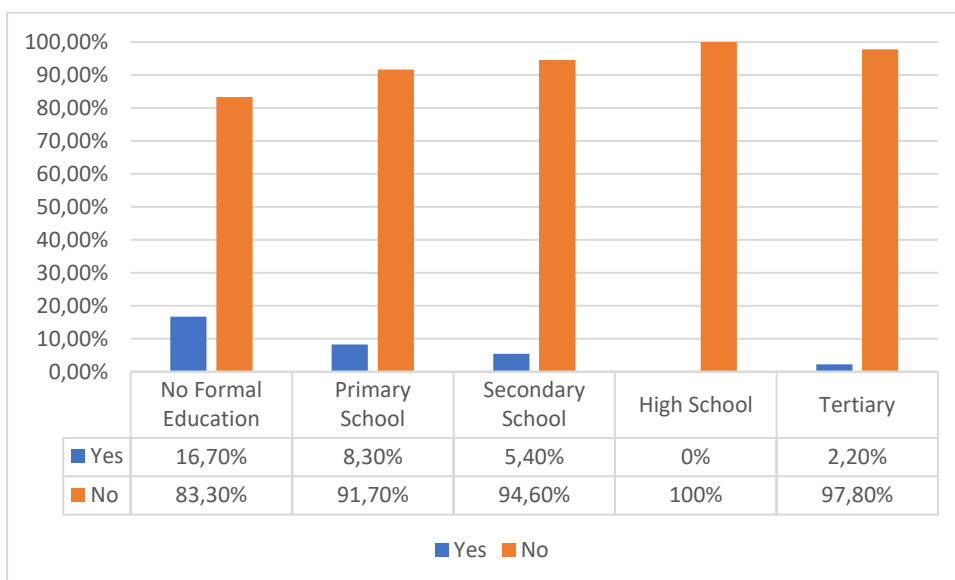
Figure 51:Farmers' Educational Level Relating to Business Management Skills

Under this category, (16.7%) of beneficiaries who had no formal education and (8.3%) of them dropped out of primary school had difficulties of lacking business management skills as shown in Figure 51. Also, (5.4%) of beneficiaries who dropped out of secondary school and (2.2%) who reached tertiary level lacked business management skills to run their businesses.

Marital status

	Single	Married	Divorced	Widowed	Separated
Yes	5,90%	3,40%	0%	7,70%	0%
No	94,10%	96,60%	100%	92,30%	100%
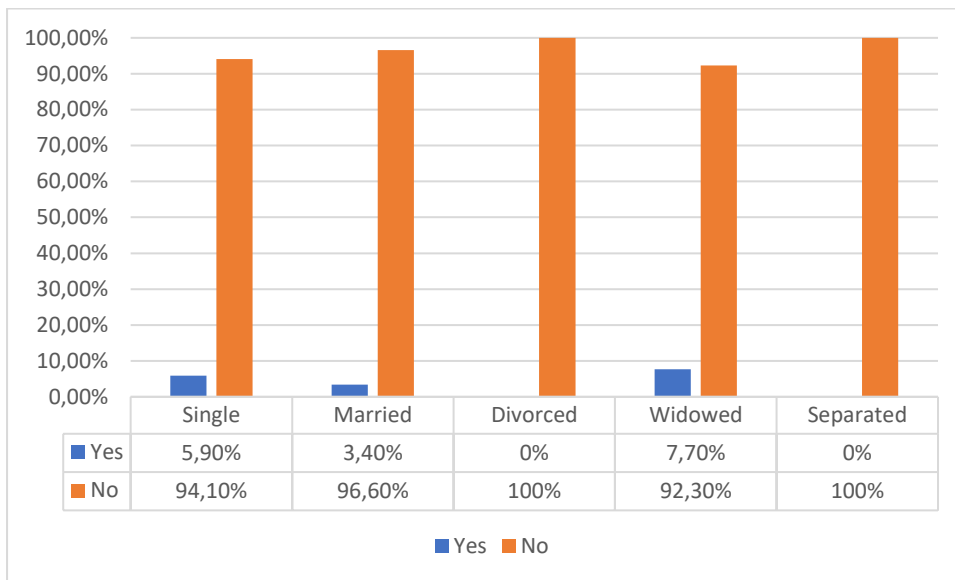
Figure 52:Farmers' Marital Status Relating to Business Management Skills

Figure 52 shows that about (5.9%) of single, (3.4%) of married and (7.7%) of widowed respondents lacked business management skills to grow their businesses.

Main occupation
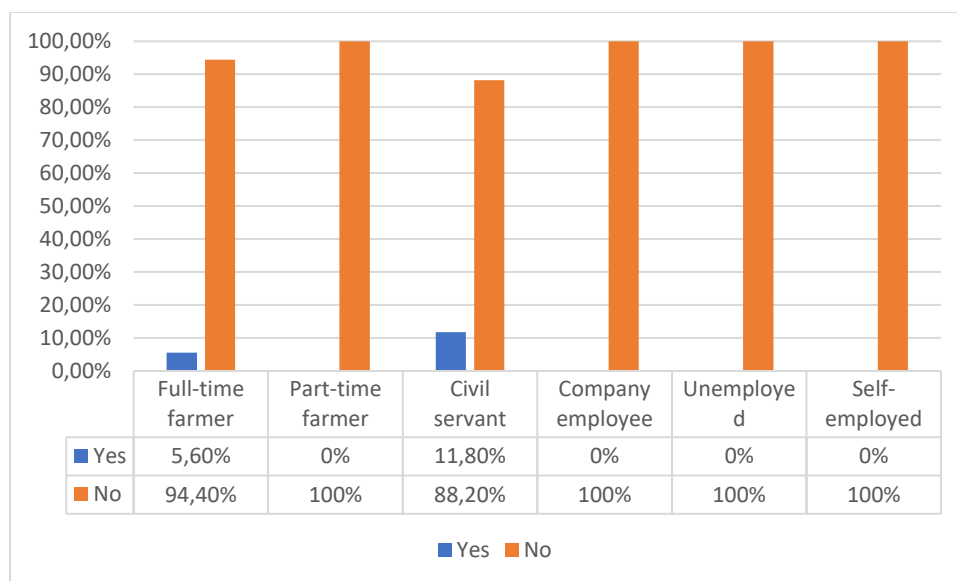
Figure 53:Farmers' Occupation Relating to Business Management Skills

Figure 47 shows that only (5.6%) of full-time farmers lacked business management skills to grow their enterprises and (11.8) % of civil servants with a similar problem.

Major source of income
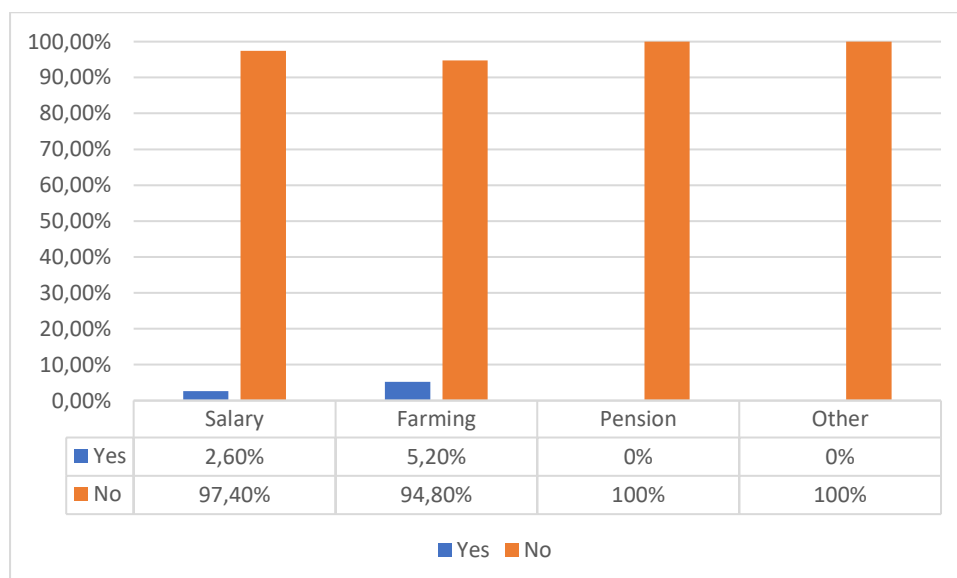
Figure 54:Farmers' Source of Income Relating to Business Management Skills

Figure 54 shows that only (2.6%) of beneficiaries who earned through a salary stated the lack of business management skills held their enterprises back, along with (5.2%) of farmers who earned through their farming enterprises.

Estimated monthly income

	Less than R5000	R5101 - R10 000	R10 101 - R15 000	R15 101 - R20 000	Above R20 000
Yes	3,70%	2,80%	5,70%	5,30%	33,30%
No	96,30%	97,20%	94,30%	94,70%	66,70%
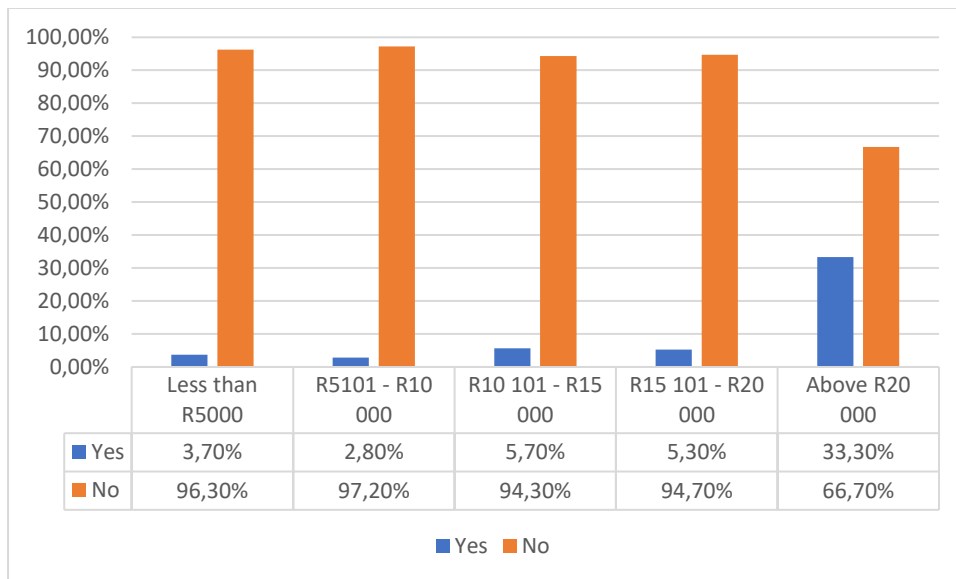
Figure 55:Farmers' Monthly Income Relating to Business Management Skills

Figure 55 shows that (3.7%) of farmers with an income of less than R5000 indicated that their enterprises were not growing because of lacking business management skills. About (2.8%) of beneficiaries earning in between R5101-R10000, (5.7%) of farmers earning in between R10101-R15000, (5.3%) of farmers earning between R15101-R20000 and (33.7%) earning above R20000 couldn't grow their enterprise because of the lack of business management skills.

Tenure Status
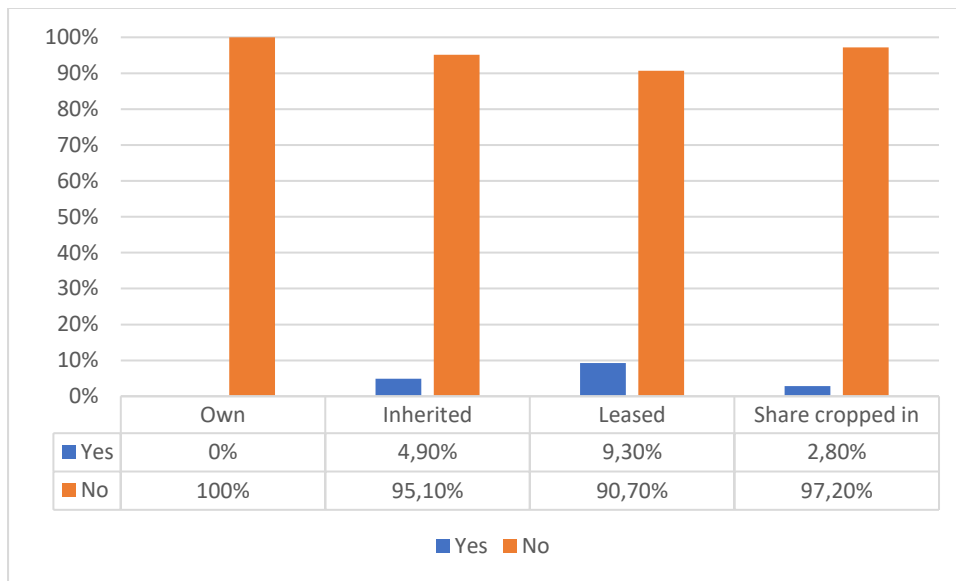
Figure 56:Farmers Tenure Status Relating to Business Management Skills

Figure 56 shows that (4.9%) of farmers on inherited land, (9.3%) on leased land and (2.8%) on share cropped in land did not perform well due to lack of business management skills.

Type of land
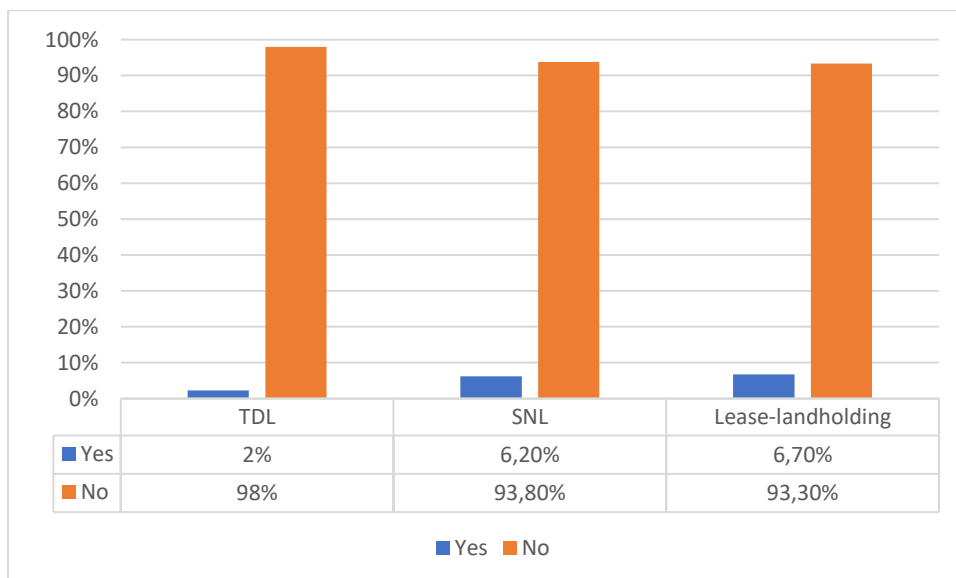
Figure 57:Farmers Type of Land Relating to Business Management Skills

About (2%) of farmers on Title Deed Land, (6.2%) on Swazi Nation Land and (6.7%) on Lease-landholding attributed their challenges to lack of business management skills as shown in Figure 57.

Size of farmland

	Less than 2ha	2 - 5ha	6 - 10ha	Above 10ha
■ Yes	0%	10%	2,90%	3,10%
■ No	100%	90%	97,10%	96,90%

■ Yes ■ No
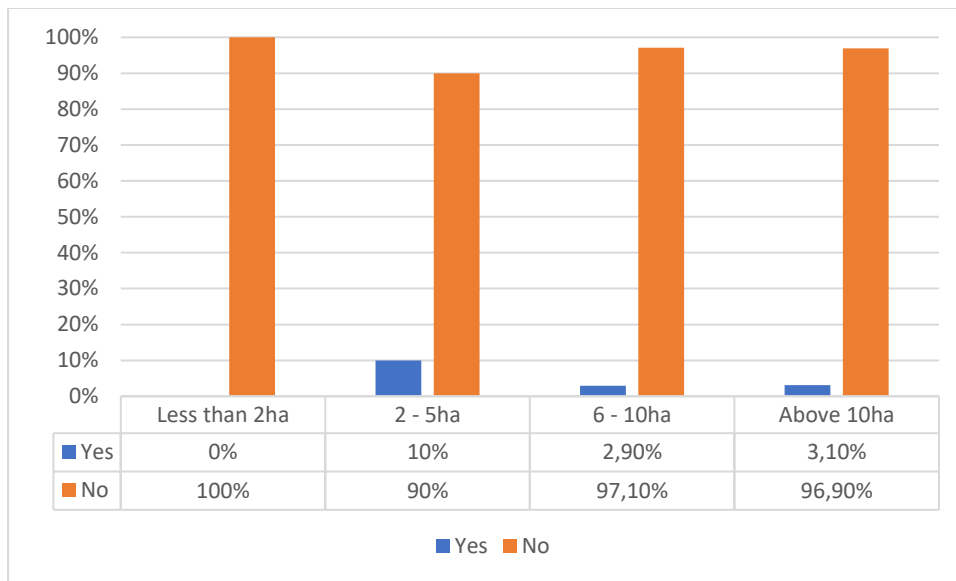
Figure 58:Farmers Size of Farmland Relating to Business Management Skills

Figure 58 shows that only (10%) of farmers who cultivated on 2-5ha of land, (2.9%) who cultivated on 6-10ha of land and (3.1%) who cultivate don land above 10ha had difficulties in their enterprises due to lack of business management skills.

Other challenges faced by beneficiaries

Despite these challenges that the farmers face, which inhibit their businesses to grow, more challenges bring back these farmers. These challenges include multitasking (working in their respective workplaces and the farms simultaneously), volatile market prices, natural disasters, transport scarcity, lack of fence around farm and cultivating small areas. Table 37 summarises other challenges faced by microfinance beneficiaries that inhibit the growth of their enterprises. Other challenges from the table are the ones that have been discussed earlier.

Table 4 :Other challenges faced by beneficiaries

Challenges	Frequency	Percent	Valid Percent
Multitasking	1	0.5	0.8
Volatile Market Prices	6	3.0	5.0
Natural Disasters	11	5.4	9.2
Transport Scarcity	2	1.0	1.7
No Fence	2	1.0	1.7
Small Cultivation Areas	1	0.5	0.8
Other	97	48.0	80.8
Total	120	59.4	100.0
Non-Beneficiaries	82	40.6	
Total	202	100.0	

Authors' calculation:2021 (SPSS)

The above table shows that (0.8%) of farmers face challenges in multi-tasking their businesses together with their employment and cultivating small land areas. They also mentioned that they lack transport to carry their produce to the market, that is, (1.7%) of the beneficiaries who lacked transportation, and another (1.7%) lacked fence. Farmers with no fence can only grow crops in one season per year when livestock movement is controllable. Beneficiaries affected by the ever-changing market prices were six, (5%) of the beneficiaries, and (9.2%) were affected by natural disasters.

4.7 Challenges beneficiaries face in accessing microfinance services in their communities
Beneficiaries of microfinance encountered numerous problems while accessing microfinance services in their communities. They included the distant location of loan offices, absence of new business start-up loan services to new entrepreneurs, poor entrepreneurial training, very high interest rates, long process to get the loan, and other challenges.

Table 5 : Challenges beneficiaries face in accessing microfinance services in their communities

Challenges	Frequency	Percent	Valid Percent
Far location of loan offices	7	5.8	5.8
Absence of new business start-up loan	26	21.7	21.7
Poor entrepreneurial training	35	29.2	29.2
Very high-interest rate	10	8.3	8.3
Long process to get the loan	6	5.0	5.0
No problem	25	20.8	20.8
Other challenges	11	9.2	9.2
Total	**120**	**100.0**	**100.0**

Authors' survey:2021 (SPSS)

Table 38 above shows that a majority of the beneficiaries (29.2%) were challenged by receiving poor entrepreneurial training they underwent before their loans were disbursed. About (21.7%) of the respondents were challenged by the absence of new business start-up loans, especially for new farmers who intended to join microfinance services. Beneficiaries who faced challenges with high-interest rates posed on credit loans were ten which is (8.3%) of the total beneficiaries. In comparison, (5.8%) of them were challenged by the distant location of the loan offices.

Meanwhile, (5%) of the respondents mentioned that acquiring a loan from an MFI was a very long process that was a challenge to them. Luyirika (2010) also noted that borrowers were affected hugely by the lengthy procedures to accessing loans as the paperwork was too much. The interviewed borrowers mentioned that the long process was a back and forth processed that increased costs to access the loans. Only (9.2%) raised other problems they encountered in their communities when accessing MFI services. The challenges included favouritism among the community selection team, unwelcoming selection team, and untrustworthiness of

the selection team towards applicants. Despite these challenges, (20.8%) of the beneficiaries said they did not encounter any obstacles accessing MFI services in their communities.

4.7.1 How to overcome the challenges encountered while accessing microfinance services in the communities

The respondents made suggestions and seconded existing ones to overcome challenges they faced when accessing microfinance services in their areas. These solutions included paying instalments in the nearest post offices, using mobile banking for microfinance transactions, converting MFI to a savings and credit movement, availability of pre-entrepreneurial training schemes for start-up loan applicants, and other suggestions. Table 39 shows the summary.

Table 6 How to overcome the challenges encountered while accessing microfinance services in the communities

Suggestions	Frequency	Percent	Valid percent
Nearest post office payment	13	10.8	10.8
Access to mobile banking	26	21.7	21.7
Conversion of MFI to a savings and credit movement	16	13.3	13.3
Availability of pre-entrepreneurial training schemes for start-up loan applicants	17	14.2	14.2
I do not know	29	24.2	24.2
Other	19	15.8	15.8
Total	**120**	**100.0**	**100.0**

Authors' survey 2021 (SPSS)

Shown above on Table 39 is that a majority of respondents, (24.2%), expressed that they did not know what could be done to overcome the challenges they face when accessing microfinance services in their communities. Some (21.7%) suggested that access to mobile banking for MFI transactions could be a solution, especially for convenience and time-saving purposes. Other beneficiaries, (14.2%) of the respondents, suggested that the availability of pre-entrepreneurial training schemes for start-up loan applicants should be accessed by everyone, mainly to new borrowers. A portion of (13.3%) of the beneficiaries suggested that MFI's convert to credit and savings movement, (10.8%) indicated that payments should be made to the nearest post office. A total of (15.8%) of respondents made their suggestions on

overcoming the challenges encountered when accessing microfinance services in communities. The other suggestions included:

- Showing collateral in the initial phase of the borrowing process and repossession if a borrower fails to pay up.

- The community selection team should clearly state all application requirements to avoid doing back and forth during the application process.

- Older borrowers should sustain themselves to give others a chance as well as moving away from debt.

- MFI officials should monitor the community selection team for compliance of fairness and trustworthiness when selecting borrowers.

- Returning borrowers should be given priority and should have less paperwork.

- The community selection team should be changed after a certain period.

- The loan application fee and requirements should be less to accommodate the very poor.

- Borrowers should provide moral support to each other so that they can pay up their loan earlier and request another on time.

- Borrowers should familiarise themselves with the community selection team.

- Each borrower should be on their own, not in groups, and the defaulters delay the ones who pay on time.

4.*8* Challenges Faced When Utilizing Funds from MFIs

After the successful beneficiaries have received their loans, they again face challenges in utilizing the given loans. The common problems they encountered were: family debts repayment problems, unexpected family expenses, delay in disbursement of loans and other challenges. The following Table 40 summarises these problems and their distribution among the beneficiaries.

Table 7 Challenges Faced When Utilizing Funds from MFIs

Challenges	Frequency	Percent	Valid Percent
Family debts repayment problem	10	8.3	8.3
Unexpected family expenses	64	53.3	53.3
Delay in disbursement of loans	21	17.5	17.5
Nothing	17	14.2	14.2
Other	8	6.7	6.7
Total	**120**	**100.0**	**100.0**

Authors' survey:2021 (SPSS)

From the table above, the biggest problem that affected beneficiaries when utilizing their funds was servicing unexpected family expenses, which (53.3%) of the beneficiaries' experience. About (17.5%) of beneficiaries were also challenged by late disbursement of loans, and (8.3%) were affected by problems associated with paying family debts. About (14.2%) of the beneficiaries said they had nothing to say about these challenges, and (6.7%) mentioned other challenges. The mentioned challenges included:

- With short RDA tractors, beneficiaries ended up planting late while waiting for tractors.

- Lack of cooperatives where they can save their money so that they can sustain themselves.

- Drought destroys their crops.

- Unpredictable weather

- Receiving smaller loan amounts to the requested ones.

- Uncontrollable livestock

- Land disputes

4.8.1 How to overcome challenges encountered when utilizing MFI funds

The beneficiaries who encountered problems and those who did not have any issues in utilising microfinance funds suggested a solution to overcome the above challenges. To overcome the issues, they suggested that; loans should be disbursed on time, interest rates on loans should be reduced, increase the loan amounts, provision of inputs and farm implements instead of giving credit and other solutions.

Table 8 Solutions to loan utilization challenges

Solutions	Frequency	Percent	Valid Percent
Timely disbursement of loans	16	13.3	13.3
Reduce interest rates	16	13.3	13.3
Increase loan amounts	50	41.7	41.7
Provision of inputs and farm implements instead of credit	12	10.0	10.0
I do not know	11	9.2	9.2
Other	15	12.5	12.5
Total	**120**	**100.0**	**100.0**

Authors' survey:2021 (SPSS)

The Table 41 shows that a majority, (41.7%), of beneficiaries suggested that MFIs should increase the loan amounts given to people, and (13.5%) suggested that loans should be disbursed earlier and on time to avoid inconveniences and that MFI's should reduce interest rates. About (10%) suggested that MFIs should provide inputs and farm implements rather than credit to prevent the mismanagement of funds. In comparison, (9.2%) did not know what solutions to give, and (12.5%) suggested other solutions. The other solutions included:

- Farmers should provide receipts after the purchase of inputs and implements.

- Self-discipline on loan

- Honesty

- Proper planning of farming events and having a backup plan for loan repayment.

- Encouraging each other as members to prosper.

- Diversifying into other enterprises.

- Monitoring and awarding farmers doing well.

- Using lease landholding agreements to prevent land disputes.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter summarises the main finding of the study per objective, conclusions drawn and recommendations to future researchers, Inhlanyelo Fund and FINCORP.

5.1 INTRODUCTION

The study sought to assess the effects of microfinance services on smallholder farmers' incomes and productivity, mainly assessing dry maize and sugar cane farmers in the Lubombo region. The initial sample size was 203, but one questionnaire was not returned: hence, the new sample size of 202 respondents, 120 beneficiaries (from FINCORP and Inhlanyelo Fund) and 82 non-beneficiaries. The beneficiaries were accessed from the respective microfinance institutions they are members of, and the non-beneficiaries list was accessed from the Lubombo Region's government crop production extension workers. A majority of the respondents were dry maize farmers who comprised both beneficiaries and non-beneficiaries, and the least were sugar cane farmers who comprised beneficiaries only. Almost all sugar cane farmers in the Lubombo Region are beneficiaries of microfinance in the sense that they usually come together to share land, form cooperatives and seek loans. Two primary empirical analyses were carried out, the Mann Whitney U test and the fractional regression model.

5.2 SUMMARY OF MAIN FINDINGS

The socio-economic characteristics of the farmers show that there were more male participants, and the most active age group was the 45-54 years age group. The average educational level for the smallholder farmers was secondary school, and the average income bracket was less than R2000.00 monthly. A majority of the respondents were married with inherited land and cultivate on Swazi Nation Land.

The first objective was to identify the microfinance institutions which operate in the country and the types of services provided. Descriptive statistics were used to analyse this objective, and the analysis showed that a majority of the respondents knew about microfinance services, although some did not participate. The services provided to beneficiaries were credit, savings, business and management training, insurance and money transfer. The most popular and used product was credit followed business management training, which is usually pegged to credit borrowers, especially first-time borrowers.

The most popular MFIs were FINCORP and Inhlanyelo fund, which non-beneficiaries acknowledged to know but lacked knowledge and did not meet requirements to participate. The research concludes that microfinance still at an infant stage in Eswatini. There were existing microcredit providers in the country, but there are few microfinance service providers.

The study's main objective was to assess the impact of microfinance services on smallholder farmers' incomes and productivity. Descriptive statistics and Mann Whitney U test were used for analysis. Initially, a t-test was assumed to be used but did not pass the normality test, hence utilising the substitute non-parametric test. A comparison was made on total maize income and production, where beneficiaries had more income from maize sales than non-beneficiaries. They also produced more tonnes of maize than non-beneficiaries.

The results showed a significant difference between the farmers from a comparison in total farm machinery and implements ownership between the two farmer groups. Beneficiaries owned more of the machinery and implements compared to their counterparts. A comparison was also made on home and farm investments made by the two farmers since they ventured into farming. The results showed that beneficiaries had made more farm and home investments compared to non-beneficiaries. The results also revealed that beneficiaries could take care of more family needs compared to non-beneficiaries. Therefore, the study concludes that there is a significant positive effect on the incomes and productivity of microfinance beneficiaries.

The third objective of the study was to assess the levels of microfinance credit repayments and determinants among the smallholder farmers. To assess the levels of microfinance credit repayments, descriptive statistics were used. To assess the determinants of credit repayment among the smallholder farmers, a fractional logit regression model was employed. The results revealed that factors which determined credit repayment rate among the beneficiaries of microfinance credit in the study area were; sex, education, the sufficiency of the loan, extension services, distance and amount of credit received. Most males repaid on time and in full, along with household heads. The most repaying age group was the 45-54 age group and farmers who reached up to tertiary in terms of educational level.

Single farmers repaid more than their counterparts, and part-time farmers and farmers earned their income from salaries. Farmers who earned a monthly income of less than R5000 were still servicing their loans, and none had fully paid for that term, while a majority of their counterparts from the other income brackets managed to repay in total. Farmers who owned land struggled with repaying, while farmers who inherited and shared land repaid on time.

Farmers who cultivated on land above 10 ha, all of them repaid their loan instalments in full and timely. The fractional results reveal that the loan percentage and the type of production significantly determine credit repayment rate of smallholder farmers. The study therefore concludes that socio-economic and demographic factors positively influence the credit repayment ability of smallholder farmers.

Objective number 4 aimed to assess the challenges faced by microfinance clients that inhibited smallholder farmers' success. Descriptive statistics were used to analyse this objective. The biggest challenge the farmers faced was receiving insufficient loan amounts alongside lack of markets, lack of business management skills, poor financial literacy, and other challenges involving natural disasters. They also received inadequate entrepreneurial training when accessing the services and were challenged mainly by the absence of new start-up loans for newer entrepreneurs.

To overcome the challenges faced when accessing MFI services from the community, the respondents mostly suggested using or accessing mobile banking for MFI transactions. The biggest challenge faced when utilizing microfinance credit was the arising of unexpected family expenses. To mitigate loan utilization challenges, the farmers mainly suggested increments in loan amounts which could also help the farmers who receive insufficient loan amounts. The study concluded that the challenges faced by the beneficiaries directly affect the incomes and productivity of the farmers.

5.3 CONCLUSION

From the above summary, it can be concluded that microfinance has a positive impact on the incomes and productivity of its beneficiaries. We can see this through the increased incomes, high quantity produced of produce, farm and home investments made, the ownership of machinery, and the increased social status and affordability of basic needs and wants. If the challenges faced by microfinance beneficiaries are worked into, the over-dependency of beneficiaries on microfinance can be weaned off. It will give farmers a chance to have all the inputs and machinery they need at the right time, hence improving productivity and income.

5.4 RECOMMENDATIONS

The analysis results showed a minor engagement of women participating in MFI's. Women should be encouraged to join and participate in microfinance services to improve their economic and social statuses. It is also recommended to future researchers that more research be done challenges faced by women when looking for credit from microfinance institutions.

The results also revealed a lower educational level for smallholder farmers. The government of Eswatini could increase adult education institutions at the constituency level for easier accessibility. It could help smallholder farmers improve their literacy levels, confidence and decision-making skills.

The smallholder farmers also urge the government of Eswatini to engage with smallholder farmers to improve accessibility channels to markets.

Borrowers recommended that MFI's increase loan amounts and give complete requested parts to borrowers, chances of misappropriations of funds could be slimmer, and incomes and productivity could increase tantamount.

The respondents also recommended that borrowers be trained well, especially on business management and finances, followed up to reduce chances of failure, diversion of funds, and non-repayment.

Credit was the most used and familiar service over the other services so, it is recommended that microfinance institutions familiarise farmers with the different types of services provided

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