Sustainable Agricultural Finance for Smallholder Maize Farmers in Mazowe District, Mashonaland Central Province in Zimbabwe.

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____________________  ____________
STUDENT SIGNATURE     DATE
DEDICATION

I dedicate this research work to my wife Hazel and sons Klein, Christian and Tavonga.
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I acknowledge the Holy Spirit for strengthening me throughout the course.

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ABSTRACT

This research study analysed agricultural financing for resettled A2 smallholder farmers in Mazowe District. Various studies have been carried out on other smallholder categories such as Communal farms, Small Scale Commercial Farms, Old Resettlement Schemes and A1 resettlement model farms but the A2 smallholder category is relatively under-studied. Quantitative data on 69 A2 farmers were collected using a pre-coded questionnaire and analysed using SPSS™ (Statistical Package for Social Sciences). Qualitative data were collected using in-depth interviews with key informants and analysed qualitatively using Nvivo. The target farms in the A2 model stratum were selected randomly in a Geographical Information System (GIS) using ArcMap and 1:250 000 map cadastral. The results of the research study suggest that more land allocations were skewed towards males. Most of the respondents lacked agricultural training background. Some of the farmers were full time resident on the farm while the others were either part time resident or completely not resident on their farms. Most farmers held offer letters as a form of land tenure document, while others held it on the basis of temporary offer letter and 99 Year Lease Agreement. Others were yet to get land ownership documents. The results indicate that land tenure on resettlement agricultural land is the major factor affecting access to agricultural financing by the A2 smallholder farmers. Most farmers indicated that they had no access to agricultural credit from financial institutions due to non-bankability of the tenure documents. However, most of the farmers indicated that proof of land ownership in form of an offer letter or 99 Year Lease was critical for consideration under Government Input Support Programme. Most of the farmers indicated that they felt secure while a few of them felt insecure with the tenure document they held, as some of them had experienced eviction threat before. Most farmers failed to cultivate all their arable lands due to old age lack of inputs, lack of finance and other disturbances such as land disputes. Most farmers in this sample accessed agricultural finance through Government Input Schemes during the 2017/2018 agricultural season. The farmers who benefitted under this programme indicated that fertilizers and other inputs received were inadequate. Some farmers defaulted. The farmers participated in private contract farming while others used their savings from salaries and wages to finance their farming activities. Only one (1) farmer managed to access agricultural loan from the bank upon submitting collateral security to guarantee the credit. Most farmers had insurance to cover risks inherent in agriculture business. The farmers indicated that they had access to agricultural extension services. Majority of the farmers indicated that there was a ready market for their produce but they were not happy with the producer prices. The results show that the minimum, maximum and mean values of agricultural credit accessed by the farmers was $100 and $110 000 and $1
400 respectively while the minimum, maximum and mean yields were 0.20 t/ha, 5.20 t/ha and 1.97 t/ha. The results further show that there is a strong positive linear relationship between maize yield (t/ha) and value of agricultural finance, \((r = 0.63, \text{R-square} = 0.394)\). The results show that the relationship between the two variables was significant suggesting a significant correlation between access to agricultural financing and maize productivity. In that regard the results suggest that the model can be used to make predictions for maize yield on the basis of agricultural finance accessed by a farmer.
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<tbody>
<tr>
<td>AFC</td>
<td>Agricultural Finance Corporation</td>
</tr>
<tr>
<td>AfDB</td>
<td>African Development Bank</td>
</tr>
<tr>
<td>AGRIBANK</td>
<td>Agricultural Development Bank</td>
</tr>
<tr>
<td>AISP</td>
<td>Agriculture Input Support Programme</td>
</tr>
<tr>
<td>BAZ</td>
<td>Bankers Association of Zimbabwe</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organisation</td>
</tr>
<tr>
<td>FTLRP</td>
<td>Fast Track Land Reform Programme</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information System</td>
</tr>
<tr>
<td>GoZ</td>
<td>Government of Zimbabwe</td>
</tr>
<tr>
<td>I-PRSP</td>
<td>The Zimbabwe Interim Poverty Reduction Strategy Paper</td>
</tr>
<tr>
<td>MLRR</td>
<td>Ministry of Lands and Rural Resettlement</td>
</tr>
<tr>
<td>PWSAIS</td>
<td>Presidential Well-Wishers Special Agriculture Input Scheme</td>
</tr>
<tr>
<td>RBZ</td>
<td>Reserve Bank of Zimbabwe</td>
</tr>
<tr>
<td>Zimstat</td>
<td>Zimbabwe National Statistics Agency</td>
</tr>
<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
</tr>
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<td>CSOs</td>
<td>Civil Society Organisations</td>
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<tr>
<td>NPLs</td>
<td>Non Performing Loans</td>
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CHAPTER 1: INTRODUCTION

This chapter defines agriculture finance and gives an overview of the importance of agriculture and its financing to the Zimbabwean economy in view of structural changes to the agriculture sector as a result of the Land Reform and Resettlement Programme. An overview of the finance sector as well as the background to agricultural financing and government input support schemes is outlined. It further outlines the statement of the research problem, hypothesis, research assumptions, justification of the research study, significance of the study to various stakeholders and a summary of the chapter.

1.1 Background of the study

Agricultural finance is a sectoral concept that comprises financial services for agricultural production, processing, and marketing; this includes short-, medium-, and long-term loans, leasing, savings, payment services, and crop and livestock insurance (IFC, 2011). However, the provision of sustainable financial services for agriculture has proven to be difficult as neither commercial banks nor the emerging microfinance industry are willing or able to sufficiently meet the financial needs along agricultural value chains, leaving farmers unserved. This is in spite of the key contribution of agriculture to the economy at global, regional and national level. The worldwide demand for credit by smallholder farmers is estimated at $450 Billion (Jovović, Jovanović, & Dašić, 2014).

Agriculture has always played a catalytic role in the economy of Zimbabwe. Agricultural output impacts directly on key sectors of the economy such as manufacturing, mining, construction, finance and insurance (BAZ, 2014). Zimbabwe’s agriculture is well diversified with over 20 types of food and cash crops produced and a livestock sector comprising of beef, dairy, poultry, and piggery production among others (FAO, 2011). Despite challenges of underperformance since 2000, agriculture still remains one of the most important sectors of Zimbabwe’s economy contributing more than 16 percent to the total Gross Domestic Product (GDP) (GoZ, 2012). Grain crops and food staples such as maize account for over half of Zimbabwe’s cultivated land area, and overall agricultural output. This category alone provides more than half of the country’s caloric intake and is therefore a strategic and important vehicle for attaining domestic food security (FAO, 2011).

Since 1980, the Government of Zimbabwe embarked on a Land Reform and Resettlement Programme to correct skewed agricultural land ownership patterns created by the colonial government. The resettlement programme which was carried out in three phases transferred over 13 million out of the 15 million hectares of agricultural land which was held by the Large
Scale Commercial Farmers, who were mostly white, and comprised less than one per cent of the population. The Fast Track Land Reform Programme initiated in 2000 accounts for most of the land transfers. The Land Reform and Resettlement Programme has benefited more than 300 000 families through access to prime agricultural land (Moyo, 2011).

The implementation of land and agrarian reforms has fundamentally reframed the organisational structure of both the production and marketing institutions. The policy allocated former large-scale commercial units to indigenous farmers under the Small Scale Commercial Farm, Old Resettlement Scheme, A1 and A2 resettlement models. The Mashonaland provinces (Central, East, and West), which are the main grain producing regions, accommodated 46% of A1 land beneficiaries and 74% of all A2 beneficiaries (MLRR, 2014). The implementation of the fast-track land reform policy has resulted in a dualistic grain producing sector that consists of large-scale commercial farming sector and a relatively complex set of heterogeneous smallholder farmers (FAO, 2011). However, implementation of this policy was followed by a decline in agricultural production which also negatively affected the manufacturing sector, which is predominantly agriculture-based (Coomer & Gstraunthalier, 2011).

During the first two decades of post-independence, agriculture financing was predominantly undertaken by commercial banks, the Agricultural Finance Corporation (AFC) and cooperatives. The total number of loans granted by AFC increased from 3,000 in 1979 to 100,000 in 1989, much of it accounted for by the communal and resettlement sectors, which was in line with the mission of the organization (Pandey & Ramnarayan, 1994). Lending by AFC to agriculture averaged about 40% of the total funding in the 1990s, declining to about 25% by mid 1990s (BAZ, 2014).

For the period 1980-1999, commercial banks’ lending to the agricultural sector increased from 26% in 1980, to exceed 80% by 1997. During this period, agriculture contributed significantly to economic activity, accounting for 20% of the GDP, 33% of exports with more than 350 000 employed (BAZ, 2014). According to the Reserve Bank of Zimbabwe Monetary Policy Statement issued in 2014, commercial banks’ lending to agriculture sector was as low as 15.68%. Commercial banks have also shifted towards commodity based financing – financing on a select basis, targeted commodities on the basis of repayment prospects within the value chain (RBZ, 2014).
Currently, farmers are expected to access finance for agriculture through formal institutions such as Agricultural Development Bank (AGRIBANK) (GoZ, 2016) and other financial institutions on the basis of tenure documents they possess such as 99 Year Leases (GoZ(a), 2018). The Transitional Stabilisation Programme promulgated by Government envisages greater involvement of the domestic financial system in underpinning financing of agriculture (GoZ(b), 2018).

This is against a backdrop of one of the world’s most infamous recorded hyperinflations (231 million per cent as of July 2008) that wrecked the nation’s financial system, leading to the collapse of several banks and the depletion of people’s assets leading to loss of confidence in the banking system (Bote, Mago, & Hofisi, 2014). Veselinović & Drobnjaković (2014) established that constraints to agricultural financing increases significantly and become much more acute following a financial and economic crisis.

The structure of the financial services sector was cited as one of the factors affecting access to credit finance (Osano & Languitone, 2016). The Reserve Bank of Zimbabwe (RBZ) in its 2019 Monetary Policy Statement indicated that there were 19 operating banking institutions, 205 Micro-Finance Institutions and two Development Financial Institutions as at 31 December 2018 (RBZ, 2014, RBZ, 2019).

However, the number of available financial institutions should be complemented by adequate spatial distribution to enhance rural outreach for easy access to finance by the rural community especially the smallholder farmers through reduced distance between the lender and the borrower. This can be achieved through the use of part-time offices and shared facilities as well as various forms of branchless banking such as mobile banking, automated teller machines (ATMs), points of sale (POS) devices and mobile phone banking to avoid high fixed costs of maintaining branches. This study therefore seeks to analyse agricultural financing of the resettled smallholder maize farmers in Mazowe District.

1.1.1 Definitions

Smallholder

Mutami (2015) defines smallholder farmers as farmers who are in the communal areas, resettled small scale areas, and small scale commercial areas. FAO (2015) stated that there is no unique and unambiguous definition of a smallholder. Smallholder farmers are defined in various ways depending on the context, country and even ecological zone.
Agricultural Productivity

Agricultural productivity is defined as agricultural production per unit area. It is usually measured in tonnes/ha.

1.1.2 Study Site

This study was carried out in Mazowe District of Mashonaland Central Province in Zimbabwe (see Figure 1.1). The area was initially a large scale commercial farming area before the government’s Fast Track Land Reform Programme (FTLRP). The farms in the study area have been converted to small holdings categorized as A1and A2 resettlement models (MLRR, 2014).

Mazowe District is in agro-ecological region II characterized by reliable rainfall between 750-1,000 mm, between November and March and is suitable for intensive cropping of maize, tobacco, soya beans and as well as livestock production. These intensive farming cropping activities are also influenced by the existence of heavy kaolinitic soils from the ferruginous phyllite parent material in the area which gives rise to the fertile red clay soils (Moyo & Wuta, 2014).

Figure 1.1 Map of Zimbabwe showing the location of Mazowe District.
(Source: Mathe, 2019)
1.1.3 Background to Agricultural Financing and Input Supply Programmes in Zimbabwe

Agricultural Finance Corporation (AFC) established in 1971 through the amalgamation of the former Land and Agricultural Bank and the Agricultural Assistance Board, was majorly mandated with provision of agricultural finance to farmers with other commercial banks and cooperatives augmenting this service (BAZ, 2014). The Land and Agricultural Bank commenced lending medium- and long-term loans to farmers in 1945 while short-term loans were largely provided by the former African Loan Development Trust. Prior to 1979, AFC did not lend to black farmers because only the 3000 white commercial farmers held land under title (Pandey & Ramnarayan, 1994).

However, from Independence in 1980, AFC started to offer agricultural loans to farmers in resettlement and communal areas which were neglected prior to Independence. Credit from AFC was mainly utilized by farmers for crop and production expenses. During this period, the volume of short-term agricultural loans was on a declining trajectory until 1988 as medium and long term agricultural loans were prioritised, premised on a relatively stable economy (Pandey & Ramnarayan, 1994). Unfortunately, since 2009, the financial services sector has been characterised by short term demand deposits which are not readily available for medium or long term financing due to economic instability (BAZ, 2014).

Government established the Agricultural Development Bank of Zimbabwe (Agribank) in 1999 to provide agricultural related loans as its main mandate (Agribank, 2018). Unfortunately, Agribank has “abandoned” its mission of financing farmers and has turned commercial.

To alleviate lack of access to agricultural financing by farmers, the Government since 2005 implemented programmes to support farmers through direct supply of agricultural inputs. The input support programmes which were implemented by Government included the following:

- **Operation Feed the Nation/Maguta/Inala** was launched in 2005 in response to the continuing deterioration in national food security status. It was based on the conviction that an improvement in logistics would result in farmers getting their inputs in time, plant early and get decent yields. However, the programme experienced deficiencies in implementation which resulted in failure to meet intended objectives.

- **The Agriculture Sector Productivity Enhancement Facility (ASPEF)** was launched and spearheaded by the Reserve Bank of Zimbabwe in 2004. It supported a number of key areas such as irrigation rehabilitation, horticulture, crop and livestock production and the
development of new irrigation schemes. However, the programme was poorly designed with an apparent emphasis on financial aspects instead of farmer empowerment.

- **The Champion Farmers Programme** was launched in 2008 targeting farmers capable of producing high yields, however, the selection procedures were not followed and everyone who applied was considered regardless of capability or track record. The program was launched very late and input distribution suffered from lack of fuel and transport facilities.

- **The Presidential Well-Wishers Special Agriculture Input Scheme (PWSAIS)** was launched during the 2010/11 season. The input scheme objectively sought to avail agriculture inputs (maize seeds and fertilizers) at no costs to the farmers by the President as a response to the poor funding of agriculture by the Inclusive Government.

- **Agriculture Input Support Programme (AISP)** was launched during the 2013/2014 season covering communal, old resettlement, small-scale and A1 and A2 farmers. Under the scheme, each household was to be given 50kg of Compound D fertilizer, 50kg of ammonium nitrate (AN), 50kg of lime, and 10kg maize seed pack.

- **The Command Agriculture Program** for Domestic Crop, Livestock and Fisheries Production was launched as a panacea to ballooning food import bill (GoZ, 2017). The scheme is aimed at mobilizing sustainable and affordable funding for the smallholder farmers who lack access to credit lines as they do not possess property rights which can be attached as collateral when accessing funds from financing institutions (Chisango, 2018 and Mutami, 2015).

These programmes however deprive smallholder farmers the liberty to acquire agricultural inputs from suppliers of their own choice and market their produce in liberalized open markets where super profits can be realized as it is mandatory for farmers to sell all their produce to the Grain Marketing Board (GMB), a government parastatal, to facilitate loan repayment. These arrangements have a potential of barring other potential private competitors mainly contractors from participating in the lucrative ventures.

Mutami (2015) opines that in most cases, the Government input supply programmes are poorly designed and tend to push production costs up. This study carried out in Mazowe District further revealed that inputs were increasingly becoming difficult to access, as most programmes for input provision have scaled back or have collapsed due to the liquidity crunch in the country.

It is therefore critical to establish the level of budget allocated to financing these input supply programmes to ensure adequacy of these interventions in supporting smallholder farmers. The Government of Zimbabwe indicates that expenditure on agriculture as at August 2018 reached
US$1.1 billion against an annual Budget target of US$401 million against high default rates by beneficiaries of various Government programmes (GoZ, 2019).

1.2 Statement of the Research Problem
Lack of credit has been cited as a huge constraint to the possible resuscitation of agriculture in Zimbabwe - once the breadbasket of Africa (Bote, Mago, & Hofisi, 2014). The challenge has been more pronounced because over 300,000 small-scale farmers resettled during the Land Reform and Resettlement Program are desperately in need of finance (Zimstat, 2013).

The Government has not been able to provide sustainable comprehensive support to the resettled farmers since the implementation of the Land Reform and Resettlement Policy (BAZ, 2014). The Zimbabwe Interim Poverty Reduction Strategy Paper (I-PRSP) 2016-2018 indicates that Government’s budget for Special Agriculture Production Programme for 2017-2018 of $449.8 Million had a funding gap of 81.1% and no funding was secured for other Agricultural Input Support Schemes (GoZ, 2016). Resettled farmers are expected to make alternative arrangements to secure inputs through financial institutions or public and private input supplier credit schemes (GoZ(b), 2018).

The agro-focused Agribank is currently not able to effectively deliver on its mandate of providing small, medium to long term agriculture funding to farmers due to under-capitalization (Agribank, 2018 and GoZ(b), 2018). Non-bankability of resettlement land tenure documents such as 99 Year Leases and Resettlement Permits has been cited as a major impediment to accessing credit from financial institutions by farmers (GoZ(b), 2018). Moreover, defaults caused by droughts and other circumstances have kept many settlers outside the formal credit system for almost two decades (Chiremba & Masters, 2003). It is against this background that this research study analysed agricultural financing for smallholder farmers for increased productivity on resettlement agricultural land.

1.3 Purpose of The Research Study
The purpose of the research study was to analyze agricultural financing of the A2 smallholder maize farmers in Mazowe District.

1.4 Research Objectives
1.4.1 Main Objective
- To analyze agricultural financing of smallholder maize farmers in Mazowe District.
1.4.2 Specific Objectives

- To examine the socio-economic characteristics of smallholder maize producers in Mazowe District of Zimbabwe
- To analyse critical factors affecting smallholder access to agricultural finance.
- To investigate the challenges faced by the smallholder farmers in accessing agricultural finance.
- To analyze the impact of access to agricultural finance on maize productivity in the study area.

1.5 Research Questions

1.5.1 Main research question

- What are the main agricultural financing options available to resettled smallholder maize farmers in Mazowe District?

1.5.2 Sub research questions

- What are the socio-economic characteristics of resettled smallholder maize producers in Mazowe District?
- What are the factors affecting smallholder farmers’ access to agricultural finance?
- What are the challenges faced by the smallholder farmers in accessing agricultural finance?
- What is the impact agricultural finance on agricultural productivity in the study area?

1.6 Hypothesis

H0: There is no correlation between access to agricultural financing and maize productivity.

H1: There is a significant correlation between access to agricultural financing and maize productivity.

1.7 Research Assumptions

The researcher assumes that no major policy shift will be pronounced and implemented by Government regarding security of tenure and access to agricultural financing for the smallholder resettlement farmers. It is also assumed that the target respondents will continue to cooperate throughout the study. It is also assumed that all other factors that affect agricultural productivity are held at constant and optimal conditions.
1.8 Justification of The Research

Agricultural financing continues to evolve in response to dynamic changes taking place in the national economy and beyond (BAZ, 2014). Although it has been more than two decades since the start of Zimbabwe’s resettlement experience, this massive socio-economic change remains relatively unstudied especially with a view to get an understanding of the agricultural financing dynamics following a major change to the agricultural land tenure and ownership. Most researchers such as Basera (2015), AfDB (2010), Birner, Regina, Palanyswamy, & Nethra (2006), Bote, Mago, & Hofisi (2014) and Gbandi & Amissah (2014) have carried out research focusing on Communal, Old Resettlement Schemes, Small Scale Commercial Farms and A1 farmers’ agricultural financing and limited research (Mutami, 2015) has been carried out on agricultural financing of A2 smallholder farmers.

1.9 Significance of The Research Study

This study is crucial to a wide range of stakeholders that have an interest in the agricultural activities and production. The stakeholders include the following:

1.9.1 Farmers

Farmers are expected to be the major beneficiaries of this research study as more information on alternative, innovative agricultural finance options is unearthed. This will provide an opportunity for evidence based decision making as they implement farming programmes as a business for competitiveness.

1.9.2 Government

The Government under the current Transitional Stabilization Programme underscores the need to raise productivity on agricultural farm land. It is overall Government’s responsibility to create an enabling environment for greater participation in agricultural production by smallholder farmers (GoZ(b), 2018). The study findings are significant since they would enable the government through the Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement and Ministry of Finance and Economic Development to come up with appropriate regulation, funding programs, and schemes towards improvement of access to friendly agricultural financing by smallholder farmers.

1.9.3 Financial Institutions

The Government envisages greater involvement of the domestic financial system in underpinning the financing of agriculture. Involvement of private capital through financial institutions will allow Government to channel budget fiscal space towards other national
developmental infrastructure projects and programmes (GoZ(b), 2018). This Government’s economic liberalization policy is an excellent investment opportunity for the financing institutions. In that regard, the findings of this research will provide an interface for long term win-win business relationships between smallholder farmers and the financing institutions which is lacking at the moment.

1.9.4 Insurance Companies

Agriculture is a high risk economic activity and investment in farming without insurance is an added risk factor. Fortunately, the Government is targeting broadening support to agriculture through facilitating development of innovative insurance products that target agriculture, both crops and livestock. (GoZ(b), 2018). The application of this research study findings will result in farmers accessing affordable alternative financing leading to overall growth in the agriculture sector which creates an opportunity for the insurance sector as they tend to benefit from envisaged growth in the agriculture sector.

1.9.5 Civil Society Organisations

Civil Society Organisations (CSOs) have been increasingly advocated as a means through which the gulf between citizens’ needs and existing services can be bridged. Where states cannot provide sufficient goods, services or enabling environments that help citizens in securing livelihoods, or where disadvantaged groups are excluded from existing state institutions, alternative channels of service provision must be found (Banks & Hulme, 2012). The findings from this research study will assist CSOs in their endeavor to compliment Government efforts in supporting smallholder farmers through affordable agricultural financing.

1.9.6 Agribusinesses

The Bankers Association of Zimbabwe (2014) acknowledged that agricultural production played a catalytic role in the economy and direct linkages with manufacturing sector in particular. Zimbabwe’s manufacturing sector has traditionally been largely agro-based. The Government is prioritizing increased investment in the manufacturing sector, with emphasis on value addition and beneficiation of agricultural produce (GoZ(b), 2018). The results of this research study will facilitate agricultural growth through injection of affordable agricultural finance. The increased agricultural production is expected to benefit the agribusinesses and manufacturing sector directly as more locally produced raw materials are made available for milling, canning, bottling, bakery, oil pressing among others.
1.9.7 **Academia and the Research fraternity**

This study contributes to the existing literature by addressing the existent financing gap for A2 smallholder farmers and makes an effort to diagnose the problem of access to finance in view of determinants of capital structure and sources of finance accessible and available to smallholder farmers. The results of this research study will contribute to bridging the gap that exists in related previous studies and the body of knowledge. The researcher is adding more knowledge which can be accessed by other researchers for review as they carry out their research work. The review of this research study by other researchers will open up other areas for further studies thereby adding more knowledge in the area of agricultural financing for the overall benefit of other stakeholders.

1.10 **Delimitations**

The scope of this study is agricultural financing and it’s limited to A2 smallholder farmers in Mazowe District, Mashonaland Central Province of Zimbabwe. Though there are more than 300,000 resettlement households categorised under the Small Scale Commercial Farm, Old Resettlement Scheme, A1 and A2 resettlement models, the model is targeting only A2 farmers in Mazowe District of Mashonaland Central Province. The study will focus on the period 2017/18 farming season.

1.11 **Limitations**

The study is limited to A2 smallholder farmers in Mazowe District of Mashonaland Central Province hence the results may not be generalized to the rest of Zimbabwe and to the Large Scale Commercial Farmers. The study is limited to A2 resettlement smallholder farmers leaving out other farmer categories such as Small Scale Commercial Farmers, Old Resettlement Scheme and A1. The study is focusing on Mashonaland Central’s Mazowe District only leaving out all other seven rural provinces and districts.

A comprehensive study covering all provinces and farmer categories would be crucial for adequate understanding of the agricultural financing dynamics across the farming domain in Zimbabwe. To deal with these limitations, the researcher will also carry out depth interviews with key informants to get a deeper understanding of the overall agricultural finance dynamics across the agricultural sector.

1.12 **Summary**

Access to agricultural finance by smallholder farmers is critical for their short-, medium- and long-term investment needs for increased productivity and competitiveness. Majority of the smallholder farmers in Zimbabwe are poor and generally lack assets to guarantee agricultural
loans from financial institutions. They access land through leasing from the state. There is therefore need to determine sustainable agricultural finance options in view of the tenure arrangements that exist in Zimbabwe. Various interventions by Government were characterized by bureaucratic and logistical deficiencies.

The study is important to various stakeholders such as farmers, Government, financial institutions, insurance houses and NGOs. The study is limited to A2 smallholder farmers in Mazowe District of Mashonaland Central Province hence the results may not be generalized to the rest of Zimbabwe and to the Large Scale Commercial Farmers. Attention was strictly paid to issues of confidentiality and ethics throughout the research study.
CHAPTER 2: LITERATURE REVIEW

2.1 Introduction
The previous chapter introduced the research study, defined key terms and outline the background of the study. This chapter presents both the theoretical and empirical review of the related literature on the subject under study. A conceptual framework and a summary for the chapter are also presented.

2.2 Theoretical Framework
This research study is underpinned by the theory of information asymmetry. Akerlof, (1970) introduced the concept of asymmetric information and he showed that information asymmetry could increase adverse selection in the market.

Information asymmetry theory suggests that when two parties are making decisions or transactions, there exists a situation where one party has more or better information than the other (Kemei & Kerongo, 2014). Information asymmetry is that relevant information is not available and known to all players in the financial market. It entails the lack of timely, accurate, adequate, relevant and complete information regarding the ability of the applicants to repay the loan and to access financial products from the banking institutions (Chantal, Namusonge, & Shukla, 2018).

This situation may cause an imbalance of power between the two parties (Osano & Languitone, 2016). It is the prerogative of the lending institution to carry out due diligence process through gathering adequate and relevant information so as to redress the asymmetry of the information. Some studies argued that the acuteness of information asymmetries between bankers and entrepreneurs is the main stumbling block to SME financing in Sub-Saharan Africa (Osano & Languitone, 2016).

The flow of information in the financial market is crucial for both borrowers and financial providers. Adequate information is required by the borrower in order to identify suitable potential supplier of financial services. On the other hand, the financial institutions require information to enable them to evaluate the potential risks associated with the borrower that applies for bank financing and also to access the location where the same borrower will be operating and its market segments (Kemei & Kerongo, 2014).

2.3 Theoretical Review of literature on Agricultural Financing Options
Agricultural financing and inputs are essential in the production process, and their supply at appropriate prices, time and locations is vital. Zimbabwe has options of inputs provision and
financing options which range from government-funded to private schemes (Mutami, 2015). Some of the options are discussed below:

2.3.1 Bank loans

Bank Loans and Default Repayments

The Zimbabwe Reserve Bank (2019) indicates that the country’s financial sector is characterised by a slow increase in lending to the productive sectors with agriculture accounting for only 16.34 per cent in 2018 as compared to 15.68 per cent in 2014. The 2019 Monetary Policy Statement however notes that the ratio of Non-Performing Loans (NPLs) to total loans is on the increase at 8.25 per cent as at 30 December 2018 from 7.08 per cent as at 31 December 2017 (RBZ, 2019). The manifestation of NPLs is likely due to defaults by borrowers due to economic and natural factors such as inflation, droughts and pests and diseases characterising the country’s economic and environmental space. Default loan repayments due to misappropriation of agricultural loans cannot be ruled out.

This observation in sync with Mutami (2005) who found out that default rates were high on agricultural loans accessed in banks, resulting in most smallholder farmers excluded by local financial institutions due to poor credit history. However, Gbandi & Amissah (2014) established that other countries such as Nigeria dealt with the scourge of default loan repayments through Government guarantee up to 75 per cent to cover defaults.

The establishment of Government guarantee actually encourages the culture of non-payment of loans as farmers rely on Government assuming their loans. This culture is not alien to Zimbabwe as evidenced by the Reserve Bank of Zimbabwe (Debt Assumption) Act, 2015 to allow the Government to assume the agricultural related loans and equipment benefitted by some resettled farmers. Government guarantee of loan defaults is not a good business culture as it only increases the country’s domestic debt thereby putting pressure on the fiscal space at the expense of the other areas of development.

The debate on access to agricultural loans cannot be finalised without establishing the composition of beneficiaries of the agricultural loans to determine the portion going to smallholder farmers who generally lack collateral to guarantee loans. Bote, Mago and Hofisi (2014) established that lack of collateral to secure loans borrowed from formal financial institutions was a critical barrier to accessing credit loans. It’s not surprising to find out that majority of the agricultural loans are being accessed by large scale commercial farming entities. The study by AfDB (2010) established that smallholder farmers in Kenya could
access agricultural credit on the basis of business cash flow and past payment record rather than on collateral.

**Bank Loans and Interest Charges**

Veselinović & Drobnjaković (2014) cited high cost of capital (high interest rates) as inhibitors to agricultural investments in most developing countries. This study resonates with Bote, Mago and Hofisi (2014) who established that access to finance intermediation services at affordable, fair, appropriate, and safe terms is a huge challenge for many rural poor.

However, Khan et al. (2007) established that smallholder farmers in such countries as Pakistan could access agricultural loans at 9 per cent. The main drawback in this study is that the farmers are required to pledge land or other personal guarantors to the bank as collateral. Unfortunately, this scheme has been characterised by confiscation and auction of the collateral land in case of loan repayment defaults. Zimbabwean commercial banks have maintained that resettlement land is not bankable and hence cannot attract investment as the land is wholly vested in the State and is not transferrable in case of loan repayment defaults.

The increase in number of micro-finance institutions in Zimbabwe (31.4 per cent from 156 in 2014 to 205 in 2018) (RBZ, 2014, RBZ, 2019) can be a good opportunity for smallholders to access agricultural credit. Regrettably, micro-finance institutions are known for charging high interest rates and always require collateral as guarantee for any loans.

### 2.3.2 Leasing

Matejun & Popecka (2013) defines leasing as the use of a defined material good, for a specific charge by a lessee without the necessity of its direct purchase from the lessor. Farmers in Zimbabwe access resettlement land through either offer letters, 99 Year Leases for the A2 category, Resettlement Permits for A1 farmers, other leases for Small Scale Commercial Farmers and Old Resettlement Scheme farmers. The farmers are leasing agricultural land from the State paying annual rentals and levies. However, the land is not transferable thereby affecting its collateral value making it not bankable (GoZ, 2012). However, this arrangement despite other disadvantages associated with non-bankability of the tenure documents, presents an opportunity for previously marginalised nationals to access productive land for wealth generation.

### 2.3.3 Value Chain Financing (Contract Farming)

The Bankers Association of Zimbabwe (2014) indicates that value chain financing or contract farming has worked well in the Tobacco farming and Sugar Cane indicating efficiency and
effectiveness of the value chain and Stop Order Payment System which managed to build confidence over the years. This arrangement in agricultural financing has managed to reduce capital constraints, provides inputs and offsets some risks.

However, Mavengedze, Murimbarimba, Scoones, & Sukume (2016) opines that value chain financing needs sensitive regulation to protect all parties against side marketing or any other form of unfairness. These negative developments have been witnessed in cotton and soya bean contract farming in view of a weak legal and regulation system to facilitate business conduct to ensure win-win situation between the farmers and the contractors. In Zimbabwe, private players have not shown keen interest in supporting grains such as maize except for Government that has contracted all qualifying resettled farmers under the Command Agriculture Programme.

2.3.4 Subsidies (Government, Donors and Private Schemes)

Chitungo & Munongo (2014) established that smallholder farmers in Zimbabwe used to access subsidized credit at lower interest rates than those charged for large scale commercial farmers from the former Agricultural Finance Corporation. They further concluded that the government needed to intervene with seed and fertilizer subsidies since the most vulnerable families are not keen to participate in the private sector initiatives.

However, Pazvakavambwa (2009) established that efforts by Government to provide subsidized inputs for farmers through national programmes were characterised by misappropriation of the commodity as the facility was accessed by non-farmers and ended up on the parallel market. This perhaps, pointed to general lack of capacity by the newly resettled farmers to carry out farming as a business. On the contrary, the AfDB (2010) established that the implementation of the fertilizer and seed subsidy program in Malawi was a success and led to an additional 400,000 tonnes of maize being produced in 2006 and 700,000 tonnes in 2007. In 2008, Malawi had a maize surplus of 500,000 metric tonnes. However, Chirwa & Dorward (2014) established that there have been concerns related to inefficiencies, leakages, and diversion of subsidized inputs in Malawi.

2.3.5 Own Savings, income from Friends and Relatives, Diaspora Remittances

Smallholder farmers in Kenya, Ethiopia, Uganda and Tanzania depended on savings from their low incomes, incomes of friends and relatives, diaspora remittances, and informal money lenders (AfDB, 2010). However, these financing options are neither guaranteed nor reliable and tend to limits opportunities for expansion. However, in the case of Zimbabwe’s resettlement farmers, these finance options present an opportunity for investment for one’s
surplus disposable income for resettled farmers or through joint ventures with friends and relatives who did not get an opportunity to access resettlement land. However, given the low levels of income in African agricultural production, the accumulation of savings may be difficult.

Chitungo & Munongo (2014) found that most families in the region including Zimbabwe receive remittances from their families in town and cities and those in the diaspora. These remittances also present an opportunity for investment on agricultural land back home. However, economic vagaries obtaining in the country such as unpredictable pricing, parallel market, dubious exchange rates and hyperinflation tend to erode investor confidence to invest on resettlement agricultural land.

Insecure land tenure system existing in resettlement land also tend to reduce investment on agricultural land which can result in farmers skeptical to reinvest proceeds onto the farm but rather invest in urban areas where tenure is titled and secure.

2.3.6 Agricultural Insurance

Anderson (2015) opines that risks from adverse weather or price fluctuations are considered to be barriers to smallholder productivity and adoption of improved production technologies. This observation concurs with Itturioz (2009) who agrees that agricultural production faces a myriad of risks. This challenges requires that farmers adopt insurance schemes to hedge against possible contingent loss.

However, farmers may try informal strategies to self-insure against risk, through diversification but this may prevent smallholders from attaining economies of scale. In that regard, agricultural insurance products may help address these constraints by reducing farmers’ exposure to risk, since risk exposure affects production decisions such as how much land to cultivate or input investment levels. This study is carried out in areas where farmers have little knowledge about these products and it’s crucial to determine the level of adoption of agricultural insurance products by smallholder farmers who are at risk of perennial losses due to vagaries of climate change and unpredictable economic policies obtaining in the country.

This sentiment is echoed by Ramm, Balogun, Souvignet, & Range (2018) who also indicated that adoption of insurance schemes by smallholder farmers is crucial in view of climate change induced disasters such as cyclone induced floods and landslides, veld fires, droughts and uncontrollable pests and diseases such as fall army worm being experienced in Zimbabwe. As a response to increasing disaster impacts, the importance of risk transfer and
financial instruments such as climate risk insurance in view of smallholder farmers’ circumstances need to be emphasized.

Zimbabwe’s insurance penetration rate, which reached a high of 10 percent in the early 1990s, has been declining over the last two decades to a low of 1.5 percent in 2015. This is due to perceptions of insurance as a luxury and unaffordable due to subdued disposable incomes, lack of trust due to policy value lost, hyper-inflation and poor education on the matter (GoZ, 2018).

2.4 Previous Studies on Smallholder Agricultural Financing

Various studies have been carried out on smallholder agricultural financing. Mujuru (2014) carried a study on irrigation schemes in Dotito and Marondera Districts and established that lack of finance and markets were the major challenges encountered by the small-holder farmers as formal financial institutions were not willing to support them despite high production records. In this study, lack of cheap loans and access to credit were cited as major stumbling blocks for efficient running of the farming as business. However, results were presented in a qualitative manner even though the study was quantitative. Therefore, it was very difficult to quantify the findings.

Basera (2015) in his research study on assessment of smallholder maize productivity and profitability in Mazowe District of Zimbabwe established that average maize productivity was fluctuating between 1.5 t/ha and 3 t/ha for the period 2006 to 2015. These yields are not in agreement with national mean yield which is at 0.5 t/ha. However, it is possible because the research study did not include the communal farmers whose average yields are usually low due to marginal soils and poor rains. The researcher also analysed socio-economic characteristics of the smallholder farmers and established that the majority of the respondent were males (70%). Access to agricultural credit was found to be very low (5%). The research study is similar to this research study on the productivity component and not all other variables.

Mutami (2015) study on smallholder Agriculture Production in Mudzi district focusing on communal, resettled A1 and A2 farmers established that average hectares under maize since the year 2010 have been 12 ha, signifying that resettled farmers are in the commercial production of maize. This resonates with findings by Cliffe, Alexander, Cousins, & Gaidzanwa (2011) who found out that resettled farmers produced for domestic consumption as well as the market. He also showed that maize productivity surpassed 4 t/ha in resettlement areas like A1s. The study further revealed that gender relations in resettled areas have less
bearing on resource mobilisation and access to agricultural financing. Only 6 per cent of the resettled farmers were affiliated to a farmer organisation. This research study by Mutami (2015) is different since it focuses on all smallholder categories while this study focuses on A2 smallholder farmers only.

A study by Parirenyatwa & Mago (2014) on contract farming in Zimbabwe established that farming was characterised by low productivity and underutilisation of arable land. The results of the study confirm that contract farming has a potential to boost productivity in Zimbabwe’s farming sector and empower the emerging black farmers. However, this study focused on tobacco only in contrast to this study which focused on maize productivity and the concomitant agricultural financing. However, the principles applying in tobacco contract farming can be tailor-made and tested in maize productivity to improve access to agricultural financing for maize.

The study by Cliffe, Alexander, Cousins, & Gaidzanwa (2011) on the fast track land reform programme in Zimbabwe concluded that insecurity is a root problem and directly affects investment in land and productivity. The study found out that access to 99 Year Leases was limited as most farmers were still holding offer letters and their occupation of land was characterised by conflicts and disputes. This study was general as it reviewed the fast track land reform programme without focusing on specific variables but this research is specific and focuses on agricultural financing as a thematic area.

Another study by Mago & Hofisi (2016) on microfinance as a pathway for smallholder farming in Zimbabwe, established that 83 per cent of the smallholder farmers in the sample agreed that microfinance activities promotes agricultural productivity. However, lack of collateral to guarantee the loans remains a challenge for adoption of this financing option by many smallholders. This research was wholly qualitative but this study is majorly quantitative with some qualitative analysis to augment the quantitative findings.

2.5 Conceptual Framework
The conceptual framework of this study shows the focus on the factors influencing access to finance by smallholder farmers. The variables in the conceptual framework were tested as hypotheses to establish the relationships between variables. The conceptual framework of the study as shown in Figure 2.1 was based on conceptual relationship between independent (value of agricultural financing accessed) and moderating variables (factors that affect smallholder farmers’ access to agricultural financing from various institutional and non-institutional finance facilities) as well as the dependent variable (agricultural productivity).
The measures or indicators for access to finance include the value or amount of financing provided to smallholder farmers. This conceptual framework was developed as a guide for developing hypotheses tested during this research study in view of the underpinning theory of information asymmetry.

**Figure 2.1: Conceptual framework for smallholder farmers’ access to agricultural financing**

This conceptual framework guides the implementation of the research study in ensuring adequate examination of possible relationships between independent variable and dependent variables. This helps to determine the significance of the relationships between the variables for adequate conclusions and recommendations to be made. It explains the main variables under study and the presumed relationship among them. Its acts as the link between the literature, the methodology and the results of the research study (Greener, 2008).

**2.6 Summary**

This research study is underpinned by the theory of information asymmetry introduced by Akerlof (1970) which postulates that relevant information is not available and known to all players in the financial market for adequate decision making during a transaction. This situation exists between borrowers (smallholder farmers) and lenders (financial and non-financial institutions) and adequate information is crucial to deal with the possible risk of adverse selection.

Literature has shown that the economic instability in the country has compounded the problem of lack of access to agricultural finance by smallholder farmers who generally lack assets to guarantee loans. Smallholder farmers can tap into other finance options from informal
institutions at their own risk. A conceptual framework has been developed based on the independent variables and dependent variables as a guide for developing hypotheses tested during this research study.
CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction
The purpose of this research study was to analyze agricultural financing for smallholder maize farmers in Mazowe District. The previous chapter reviewed various literature on agricultural financing of smallholder farmers. This chapter presents a description of the methodology for this research study. The description covers research design, variables under study, area of study, target population, sampling techniques and sample size, research instruments, data collection procedure, data analysis and data management.

3.2 Research design
The research design is the general plan of how the research questions will be answered (Saunders, Lewis, & Thornhill, 2009). The research design overview for this study is depicted in the research process onion in Figure 3.1. Descripto-explanatory research design which combines both descriptive and explanatory research design was employed in this research study design. This research design utilizes description as a precursor to explanation as outlined by Greener (2008) and Saunders, Lewis, & Thornhill (2009). The researcher used the depicted research design in view of the research philosophy, research strategy and research strategy.
3.2.1 Research Philosophy

This research study is based on the pragmatism philosophical perspective in view of the research objectives and research questions developed by the researcher. Pragmatism is a position that argues that the most important determinant of the research philosophy adopted is the research question, arguing that it is possible to work within both positivist and interpretivist positions (Saunders, Lewis, & Thornhill, 2009). It applies a practical approach, integrating different perspectives to help collect and interpret data (Greener, 2008). The nature of the research questions in this study required that both positivist and interpretivist philosophies be adopted for adequate gathering of all relevant data as this study gathered facts as well as attitudes of the respondents.

3.2.2 Research Approach

The researcher employed the abduction research approach which combines both deductive and inductive research approaches. The deductive approach starts from theory to data collection where literature is used to help identify theories and ideas that were tested using
data gathered. Inductive approach is where the researcher collects and analyses empirical data to see what theory emerges (Saunders, Lewis, & Thornhill, 2009). The application of the abduction approach in this research study assisted the researcher to answer the “what” and “how” research questions. This double pronged approach addressed the need to explain causal relationships between variables on one hand as well as gaining an understanding of the meanings the respondents attach to occurrence of phenomena.

3.2.3 Research Strategy

The choice of the research strategy was guided by the research questions, objectives, the extent of existing knowledge, the amount of time to complete the research and availability of other critical resources such as finance, as well as the philosophical underpinnings (Saunders, Lewis, & Thornhill, 2009). In that regard, the researcher employed the survey research strategy through questionnaire and in-depth interviews in view of the abduction approach adopted.

Survey research strategy through the use of structured questionnaire and in-depth interviews was adopted due to its ability to collect a large amount of data from a sizeable population in a highly economical way. In this research study, it allowed the researcher to collect both quantitative and qualitative data which was used to establish reasons for particular relationships between variables and to produce models for these relationships (Saunders, Lewis, & Thornhill, 2009).

3.3.4 Time Horizon

The time horizon for this research study is 2017/2018 agricultural season. This “snapshot” or cross-sectional time horizon (Saunders, Lewis, & Thornhill, 2009) allowed the researcher to analyse the agricultural financing interventions on agricultural production in that particular season. The researcher focused on the 2017/2018 season as farmers were able to give reliable data for this immediate past season.

3.3.5 Sampling Techniques and Sample Size

Estimated number of smallholder farmers in Zimbabwe is 300 000 categorized under A1, A2, Old Resettlement Scheme and Small Scale Commercial Farms (Zimstat, 2013). A sample from a population of A2 smallholder farmers was targeted in this research study. The researcher used stratified random sampling to select farms under the A2 category of the Land Reform and Rural Resettlement Programme. Stratified random sampling was used because it
best applicable in this situation since the farmers are already stratified according to their categories of resettlement models.

There are 18,289 A2 farmers in Zimbabwe and Mashonaland Central accounts for 4047 A2 farmers. Mazowе District has 2,160 A2 farmers. (MLRR, 2014). Random sampling was applied to the A2 category or stratum in Mazowе District. The random sampling of A2 farms in Mazowе District was carried out in a Geographic Information Systems (GIS) using ArcMap software and Mazowе District 1:250,000 map cadaster. The A2 farmers on the randomly selected farms became the respondents in this research study.

We determined the sample size statistically as outlined by Saunders, Lewis, & Thornhill (2009) using the following equation:

\[ N = \frac{Z(\alpha)^2(\delta)^2}{E^2} \]

Where:
- \( Z(\alpha) \) = Value indicating confidence level (1.96)
- \( \delta \) = standard deviation \( [s.d] \) (0.5)
- \( E \) = Acceptable magnitude of error (5%)

The sample size \( (N) \) determined based on a population size of 2,160 A2 farmers in Mazowе District is 326 A2 farmers. However, the researcher managed to collect data on a sample of 70 A2 farmers only but one was spoiled and the researcher worked with data from 69 completed instruments. The data was augmented by in-depth interviews carried out with key informants in Government, Banking sector, Micro Finance Institutions and Farmer Unions. Our sampling frames in this study were the maps and lists of A2 farms and A2 farmers in Mazowе District. The elements are the farmers whose names appear on the tenure documents and units are the household to which they belong.

3.3.6 Research Choice

In this study, the researcher used more than one data collection technique and analysis procedures to answer the research questions, this is referred to as multiple methods. More specifically, the researcher adopted the mixed method research which uses quantitative and qualitative data collection techniques and analysis procedures either at the same time (parallel) or one after the other (sequential) but does not combine them. This means that, although mixed method research uses both quantitative and qualitative world views at the research methods stage, quantitative data are analysed quantitatively and qualitative data are analysed
qualitatively. In that regard, both qualitative and quantitative methods of data collection and analysis were applied in this research. Though the research study is majorly quantitative, the researcher introduced qualitative research in order to improve the efficiency of the quantitative research. These approaches helped generate knowledge which is appropriate in this discourse of business.

3.3.7 Data Collection

The researcher used the introductory letter from Bindura University of Science Education to request for authority from the relevant organization’s gatekeeper (the person, often in an organization, who controls research access) to carry out the research study and proceeded as directed.

A pre-coded structured questionnaire (Appendix 1) and an interview guide (Appendix 2) for in-depth interviews were used to collect quantitative and qualitative data respectively. A pre-coded structured questionnaire was used to collect quantitative data from a sample of A2 smallholder farmers in Mazowe District. The questionnaire was first pilot tested to check if it was adequately gathering required data and to gather respondents’ views with regard to clarity and length of the data collection instrument. The results of the pilot test were used to review, adjust and improve the final draft questionnaire.

Using the final pre-coded structured questionnaire, the researcher physically visited the farmer’s farm homesteads for direct questionnaire interviews. The farmer with the name appearing on the tenure document was the target respondent. However, in cases where the farmer could not be reached, the knowledgeable respondents such as farm managers and adult children appointed by the farmer were interviewed. Non-household members and unauthorised persons were not allowed to be part of the interviews for confidentiality reasons.

The pre-coded structured questionnaire was administered through direct interviews. During interviews, the researcher read the same set of questions in the pre-coded questionnaire to the respondent in a pre-determined order and recorded the responses on questionnaire appropriately either through ticking appropriate boxes provided or writing on spaces provided thereon.

In-depth interviews were carried out with identified key respondents to collect qualitative data. The interviewee was given the opportunity to talk freely about events, behaviour and
beliefs in relation to the research topic and phenomena under study and the interviewee’s perceptions guided the conduct of the interview in that regard (Greener, 2008).

The interviews were held with relevant representatives of Government, Financial Institutions, Insurance Houses, Civil Society Organisations (CSOs), Farmer Organisations, Agribusinesses, Academia and Research Fraternity. In-depth interviews were guided by an interview guide developed by the researcher. Interview questions were followed by more probing questions to ensure that required information is obtained in order to adequately explore the topic and produce a fuller account. The interviews were audio-recorded using a voice recorder, with permission, to avoid loss of data and subsequently transcribed through typing verbatim and printing the taped text on hard copy.

Audio-recording of in-depth interviews helped the researcher to concentrate more fully and listen attentively to what was being said and the expressions and other non-verbal gestures given by the interviewee when they were responding. The interviewer also made brief notes during the interviews to augment the audio-records. This assisted the researcher to maintain concentration and focus. As part of the qualitative data collection, the researcher gathered brochures, annual reports and other relevant materials from the relevant institutions to augment data collected through in-depth interviews.

Follow-ups were conducted through telephone and emails to thank the respondents and to collect further information where inadequate responses were given or to get clarification regarding some data collected.

**3.3.8 Data Analysis Methods**

Data Analysis is a process a researcher uses to reduce large amount of data to make sense out of them (Saunders, Lewis, & Thornhill, 2009). Data collected during this research study was analysed using quantitative and qualitative techniques. Quantitative data collected through a structured questionnaire was analysed quantitatively using SPSS™ (Statistical Package for Social Sciences) using regression, correlation, cross-tabulation, descriptive and inferential statistics. Descriptive statistics of measures of central tendency (mean, median, mode) and measures of dispersion (range, variance and standard deviation) were used.

Regression and Correlation techniques were used to establish the existence and strength of the relationship between quantitative variables for appropriate statistical Inference. Graphs, Pie Charts, Scatter Plots, Box Plots were used to show trends of the data collected. Qualitative
data gathered through in-depth interviews were analysed using the qualitative data analysis software NVivo downloaded from www.qsrinternational.com to establish key themes, patterns and trends.

3.4 Ethical Considerations
In carrying out this research, the researcher unreservedly recognised that plagiarism is a serious academic offence and endeavoured to gain access, collect data, process and store data, and write up the research findings report in a moral and responsible way. In writing the report, the researcher paid attention to use of neutral words when referring to issues of gender, ethnicity and disability. All data gathered from respondents was treated as strictly confidential and were used for academic purposes only.

3.5 Summary
This research study is underpinned by pragmatism philosophy. The researcher employed the abduction research approach which combines both deductive and inductive research approaches. The researcher employed the survey research strategy through the use of pre-coded questionnaire and in-depth interviews with key informants to collect empirical data for the 2017/2018 agricultural season. Data collected during this research study was analysed using quantitative and qualitative techniques. Data were subjected to appropriate testing in view of hypothesis developed.
CHAPTER 4: RESULTS AND DISCUSSION

4.1 Introduction

The previous section outlines the research methodology focusing on the research design, philosophy, strategy, sampling, data collection and analysis techniques. This section outlines and discuss results of the research study. Particular attention is given to the findings that relate to objectives of the research study. The section outlines the findings on socio-economic characteristics of the smallholder farmers, factors and challenges associated with access to agricultural financing in the 2017/2018 agricultural season and the impact of access to agricultural finance on maize yield.

4.2 Socio-economic characteristics of A2 smallholder farmers in Mazowe District and access to agricultural finance

Socio-economic characteristics of the farmers play a pivotal role in access to resources and subsequently on the productivity of the farmer. This research study examined factors affecting access to agricultural finance of 69 A2 smallholder farmers in Mazowe District as outlined below:

4.2.1 Gender

The gender configuration of the farmers in this research study is 55 males (80%) and 14 females (20%) respectively. The 20% for females resonates with the 20% quota policy for land allocation by Government (Cliffe, Alexander, Cousins, & Gaidzanwa, 2011) as shown in Chapter 2. On the other hand, this configuration, however, is limited to the name and gender of farmer that appeared on the tenure document. The cultural legacies could have affected this configuration as most husbands applied for land allocation on behalf of the whole family and the land allocation authorities offered the land to the applicant who signed the application form. Effectively the farm is allocated to the household represented by the applicant or the household head. Therefore, this configuration on gender may not be a true reflection regarding ownership of the holding since the farm is allocated to the household and not individuals per se.

4.2.2 Age groups of farmers in the sample

The age groups of farmers in this research study are outlined in Table 4.1. Government Policy allocates agricultural land to any Zimbabwean aged 21 years and above. However, some persons below 21 years of age may access land due to inheritance after parents or spouses are
deceased and are left as household heads. However, study results indicate that farmers in the sample are all above 31 years of age majority of whom are in the 51 to 60 age category.

**Table 4.1: Age groups of farmers in the sample**

<table>
<thead>
<tr>
<th>Age Group of Farmers (Years)</th>
<th>No. of Farmers in the Age Group</th>
<th>(%) of Farmers in the Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 20</td>
<td>Nil</td>
<td>0</td>
</tr>
<tr>
<td>21 to 30</td>
<td>Nil</td>
<td>0</td>
</tr>
<tr>
<td>31 to 40</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td>41 to 50</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td>51 to 60</td>
<td>20</td>
<td>29</td>
</tr>
<tr>
<td>61to 70</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>71 to 80</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>More than 80</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>69</td>
<td>100</td>
</tr>
</tbody>
</table>

**4.2.3 Agricultural Training Background of Farmers**

The agricultural training background of farmers is crucial as it impacts on farm management and administration for effective agricultural production. The capacity of the farmer to carry out farming as business is critical for adequate access to agricultural credit. The results from this study reveals that 51% of the farmers in the sample have no agricultural training background. The farmers with agricultural training (49%) have attained the following levels of training: degree or better (10%), diploma (3%), certificate (10%) and those who received agricultural short courses constitute 26% as shown in Table 4.2.

This configuration of farmers in the sample indicate that criteria for agricultural land allocation was not strict on qualifications and training in agriculture to qualify. These results show that some farmers have made efforts to attend short courses usually offered by government departments, input suppliers and other contractors in the agricultural value chain. This development actually creates an opportunity for initially untrained peasant farmers to obtain critical skills in running resettlement farms as business for increased productivity.
Table 4.2: Agricultural Training Background of the farmers in the sample

<table>
<thead>
<tr>
<th>Level of Training in Agriculture</th>
<th>No. of Farmers</th>
<th>(%) of Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Training in Agriculture</td>
<td>35</td>
<td>51</td>
</tr>
<tr>
<td>Degree or better</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Diploma</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Certificate</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Agricultural Short Courses</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td><strong>69</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

However, the results indicate that agricultural background training did not have an influence on access to agricultural financing as both the trained (49%) and untrained farmers (51%) had access to agricultural financing in the 2017/18 season. The majority of whom (57%) benefited from the Government Input Support Programmes.

4.2.4 Employment and Residential Status of the farmers in the sample

Most of the farmers in the sample are formally employed elsewhere away from the farm (51%) while 49% of them rely on the farm for a living. This is reflected in the results on analysis of farmers’ residential status. The study revealed that 40% are full time resident on the farm while the remainder are part time resident (38%) and 22% are completely not resident on their farms. Those who operate their farms remotely are sarcastically known as “cellphone farmers”. Full time occupation and resident on the farm provides excellent opportunities for the resettled farmers to make timely informed interventions on the farm operations unlike their part time counterparts.

The results from this study show that of the, only 8 out of 28 full time resident farmers had farm managers to assist them with farm operations while 20 of them were practicing own farm management. This could be explained by the majority (17) of them having received agricultural training. Most of the non-resident farmers (12 out of 15) and 19 out of 26, part time farmers engaged a farm caretaker to assist them in running the farm.

Most full time resident farmers (26%) benefited from the Government Input Support Schemes. However, most part time and non-resident farmers accessed financing from savings from salaries and wages (7.2% each). The sustainability of this agricultural financing option is a concern in view of the economic challenges bedeviling the country.
4.2.5 Land Tenure, access to agricultural land and access to agricultural finance

The research study indicates that majority of the farmers (96%) in the sample accessed land through the government’s Land Reform and Resettlement Programme while the remainder accessed agricultural land through joint ventures (3%) and renting (1%) from the formally resettled farmers. Majority of the farmers (86%) held offer letters as a form of land tenure document, while others held it on the basis of temporary offer letter (3%), and 99 Year Lease Agreement (3%). Unfortunately, the remaining 8% are yet to get land ownership documents.

The results of analysis on possession of tenure documents in this research is in sync with findings by (Cliffe, Alexander, Cousins, & Gaidzanwa, 2011) referred to in chapter 2 as they concluded that most farmers were still holding offer letters instead of 99 Year Leases. The minimum farm size in the sample is 18 hectares and mean arable land size of 45 hectares.

Land tenure is one of the critical factors to accessing agricultural financing as results indicate that 65% of the farmers indicated that proof of land ownership in form of an offer letter or 99 Year Lease was critical for consideration under Government Input Support Programme. However, non-bankability of the resettlement tenure documents has hindered most farmers (87%) in the sample to accessing agricultural credit from commercial banks as only 13% had access to the credit. The 13% of the farmers with access to agricultural credit is higher than the findings by (Scoones, 2017) who established that 4.5% of the smallholder farmers in Mvurwi had no access to agricultural credit.

The insecure form of tenure is also reflected by the perception of the farmers regarding the security of tenure. Most of the farmers (64%) indicated that they felt secure while 36% of them felt insecure with the tenure they held, with 7% of the farmers having had experienced eviction threat. The insecurity disposition usually manifests in form of poor investment on the farm as farmers are hesitant to spend a fortune in capitalizing the farm. This situation can lead to farmers to externalizing proceeds from the farm and invest in other forms of secure investments such as real estate. Lack of investment on the farm unfortunately reduces the farm’s value and capacity to sustain production profitably.

Figure 4.1 shows that of the 60 farmers without access to agricultural credit, 77% could not access the credit due to lack of collateral security. However, 11% professed lack of information regarding available agricultural credit options, 7% of them were skeptical due to high cost of agricultural credit from commercial banks while 5% were excluded due to poor credit history.
Figure 4.1: Reasons for lack of access to agricultural credit from commercial banks

The general lack of access to agricultural finance was reflected in that most of the farmers (84%) in the sample failed to cultivate all their total arable land. Only 16% of the farmers managed to put all their arable land under cropping. Respondents could not cultivate all their arable land due to a variety of reasons such as old age (2%), lack of draught power (26%), lack of inputs (18%), lack of finance (26%) and other disturbances such as land disputes (9%).

Farmers who indicated lack of inputs as a reason are probably accustomed to receiving inputs from Government. This disposition is very risky in farming business in case where Government abruptly stops all input programmes. Farmers are expected to build their own capacities through interim access to government input programmes. However, insecurity surrounding tenure is a serious drawback for re-investment on land without guaranteed tenure.

4.2.6 Access to draught power

This study revealed that most farmers relied on hired tractors (48%), own tractor (32%), own cattle (13%), hired cattle (4%) and other means such as hand hoeing (3%). This shows a severe lack of access to medium to long term agricultural financing for farm mechanization to generate capacity of the farms. The soils in the resettlement areas are too heavy and require mechanized draught power for meaningful production on the farms.

Therefore, it is a pre-requisite for all A2 resettled farmers to have access to mechanized draught power and not to rely on animal draught power which is not effective. Farmers who rely on hired draught power are at risk of late land preparation which translate into late planting thereby compromising productivity. Such farmers are not prioritized when
opportunities for agricultural financing are being implemented because their risk of failing is too high unlike their counterparts who own their tractors.

4.3 Access to agricultural financing by the A2 resettled farmers

The results from this research study shows that resettled farmers are accessing a variety of finance options to implement their farming programmes as shown in Figure 4.2 with the majority relying on government input programmes.

**Figure 4.2: Agricultural finance options accessed by the farmers in the sample during the 2017/18 agricultural season**

4.3.1 Government Input Programmes

This study has revealed that most farmers (57%) in this sample accessed agricultural finance through Government Input Schemes during the 2017/18 agricultural season. Government Input Programmes have created an opportunity for smallholder resettled farmers to build their capacities in view of the economic hardship bedeviling the economy. However, Government has not been able to timely deliver complete input packages to the farmers hence tantamount to setting them up for failure.
This is revealed by most farmers who received inadequate inputs and ended up applying fertilizers, herbicides and insecticides piecemeal. This situation manifested in form of compromised yields or farmers failing to plant their initially targeted arable lands. Fourteen per cent (14%) of the farmers who benefitted under this programme indicated that basal fertilizer was inadequate while 46% indicated that top dressing and insecticides received were inadequate. The situation was further compounded by 56% of the farmers who indicated that herbicides were inadequate and 5% did not receive any herbicides at all despite receiving other inputs.

The study further revealed that most farmers (78%) indicated that inputs are not delivered on time, 16% indicated that the inputs are delivered on time sometimes while only 6% received the inputs on time. All these challenges translate into reduced productivity due to late planting and other inconveniences associated with unpredictable delivery and access to inputs.

All these challenges usually lead to farmers defaulting. Thirty-seven per cent (37%) of the farmers under this programme defaulted due to various reasons such as drought (17%), pests and diseases (22%), misappropriation of inputs (11%), failure to plant whole contracted arable area (39%) and incomplete package of inputs (11%). These defaulters are then at risk of being excluded from the programme the following season. These findings resonate with findings by Mutami (2015) who indicated that default rates were high on agricultural loans accessed in banks, resulting in most smallholder farmers excluded by local financial institutions due to poor credit history. The problem of misappropriation of inputs was also noted by (Pazvakavambwa, 2009).

4.3.2 Joint Ventures

Seven per cent (7%) of the farmers entered into joint ventures with other partners who did not get the opportunity to be resettled but have access to resources. Government is currently encouraging joint ventures to increase land utilization on resettlement farms. This also presents an opportunity for Built-Operate-Transfer (BOT) schemes for long term capacitation of the resettled farmer. The joint venture partner is expected to bring and impart agricultural knowledge and skills to the resettled farmer as well as erecting immovable developments such as irrigation facilities for long term capacitation of the resettled farmer.

The results also show that all the joint ventures were taking place on farms with irrigation facilities or at least a dam. This shows that farms with already existing capacities such as irrigation or at least dam infrastructure tend attract investment.
4.3.3 Contract Farming (Value Chain Financing)

Only 4% of the farmers participated in private contract farming. Other studies Scoones (2017) and BAZ (2014) concur with these results as they suggest that contract farming is more developed in tobacco growing than cereal growing in Zimbabwe. Grain production has not adequately attracted value chain financing as they are elbowed out by Government which has contracted all the farmers to produce maize and other grains. As a result, value chain financing which has taken the commodity based financing route by private players is skewed towards production of tobacco where it has worked well through efficient stop order system to alleviate challenges of non-repayment and side marketing.

4.3.4 Savings from Salaries and Wages and from the farm

The study results show that, 14% of the farmers used their savings from salaries and wages to finance their farming activities. This relatively high number of farmers relying on their salary and wages to finance their farm operations is supported by most farmers (51%) in this sample who are formally employed elsewhere. Farming while at the same time formally employed elsewhere actually provides an opportunity to augment inputs received from Government Input Support Programmes in building farm capacity. Access to agricultural land in this case provides an opportunity for investment of surplus savings from the salaries and wages by the resettled farmers.

Seven per cent (7%) of the farmers in this study re-invested their savings from the farm back into the farm. These results suggest that farmers are externalizing proceeds from the farm and investing elsewhere. This could be due to insecure tenure which discourages investment on the farm.

4.3.5 Access to agricultural loans from commercial banks and Micro Finance Institutions

The study revealed that only one (1) farmer managed to access agricultural loan from the bank upon submitting collateral security to guarantee the credit. Further scrutiny showed that the farmer is carrying out cattle production and is not involved in maize production at all. The results also show that only one farmer accessed a loan from Micro Finance Institution. This therefore means that commercial banks and Micro Finance Institutions are not keen to support production of grains such as maize but high value products such as livestock. These findings resonate with (Mago & Hofisi, 2016) who concur that lack of collateral remains a challenge for access to agricultural credit by smallholder farmers.
Interviews with the commercial banks’ representatives revealed that the main concern was non-bankability of tenure documents with all of them (5) expecting the agricultural loan applicant to provide collateral security to cover the borrowing together with proof of land ownership such as offer letters and 99 Year Leases. Eligibility criteria gathered from the five local banks revealed that due to acute information asymmetry, commercial banks are expected to carry out due diligence and gather a lot of information about the applicant to avoid chances of adverse selection. In this case, records pertaining to the applicant, production history, production and development plans and credit history have to be submitted.

Unfortunately, the results of this research study indicate that most of the resettled farmers do not have the culture of keeping documented records and business plans for their farming business. This research study has revealed that 51% of the farmers did not have production and development plans (detailed business plans) for their farms while 26% never kept records for the farm production activities. This situation puts resettled farmers at a disadvantage whenever an opportunity to get agricultural loans is availed, their applications are most likely to be rejected as banks will not be able to adequately deal with the problem of information asymmetry.

4.3.6 Adoption of agriculture insurance

Results from interviews with representatives from the banking sector showed that most banks (80%) required that the farmer insurers their farming business as a perquisite for consideration for an agricultural loan. Agriculture insurance is not a culture among most resettled farmers. This study showed that 81% of the farmers had not adopted insurance for their farm production activities. Only 19% had taken insurance to cover risks inherent in agriculture business. All the 5 (7%) farmers operating in a joint venture were covered under insurance. Joint ventures are characterized by partners who are coming together for business investment and are therefore encouraged to adopt insurance to cover their investments.

Unfortunately, 95% of the farmers under government input support schemes had no insurance. This is due to weak administrative systems associated with government inefficiencies regarding accountability for public resources. No collateral is declared when accessing these inputs so there are punitive repercussions for defaulters. As a result, beneficiaries are not encouraged to invest in insurance.

4.4 Impact of Access to Agricultural Finance on Maize Productivity

The results show that the minimum, maximum and mean values of agricultural credit accessed by the farmers was $100 and $110 000 and $1 400 respectively. The minimum, maximum and
mean yields for the farmers in the research study were 0.20 t/ha, 5.20 t/ha and 1.97 t/ha as shown in Figure 4.3. This is against global and national average maize yields of 5 t/ha and 0.9 t/ha. The average yield of 1.97 t/ha determined in this research study is slightly higher than national average yield due to focus on A2 resettled farmers who have access to prime agricultural land unlike their communal counterparts. The national average of 0.9 t/ha is lower due to inclusion of the communal farmers’ contribution where soil productivity is marginal. The Government Input Support Programmes expects the farmer to attain at least 5 t/ha to be able to cover the borrowing and to break even. These results indicate that most farmers may not be breaking even and are at risk of defaulting as only one farmer managed 5.20 t/ha.

![Figure 4.3 The minimum, maximum and mean maize yield for the farmers in the sample.](image)

The results further show that there is a strong positive linear relationship between the two variables, maize yield (t/ha) (dependent variable) and value of agricultural finance (independent variable) as shown by the line of best fit in Figure 4.4. This is supported by the value of the Pearson product moment correlation coefficient, $r = 0.63$. The results of a t-test to test the hypothesis shows that the relationship between the two variables was significant at the 0.01 level. Therefore, based on the data analysis the researcher rejected the null hypothesis.
and concluded that there is a significant correlation between access to agricultural financing and maize productivity.

In that regard the results suggest that the model can be used to make predictions for maize yield on the basis of agricultural finance accessed by a farmer. Predictions in this regard should be cautious as there are other factors (natural and managerial), other than finance, which affect maize productivity.

The value of $R^2$ (coefficient of determination) at 0.394 indicates that 39.4% of the variation in yield can be explained by the model using the value of agricultural finance. This therefore means that 60.6% of the variation in maize yield cannot be explained by the model using only the value of agricultural finance accessed by the farmer as other factors may be limiting.

![Graph](image)

**Figure 4.4: The relationship between maize yield (t/ha) and value of agricultural finance accessed by the farmers during 2017/18 agricultural season.**

The model in Figure 4.4 assumed all the other factors at optimal conditions. The natural factors that affect productivity include moisture, temperature and other edaphic factors. Under normal circumstances, the graph is expected to level off when the productivity level reaches the possible threshold. This in line with the law of diminishing marginal productivity which
states that any advantage gained from slight improvement on the input side of the equation will only advance to a point. After this point, additional input will not increase productivity.

The results show that an example of a factor that affect maize productivity is presence of irrigation facilities as shown in Figure 4.5. Maximum, minimum and average maize yield for farmers with irrigation were 5.2 t/ha, 0.3 t/ha and 2.8 t/ha respectively, while maximum, minimum and average yield maize yield for farmers without irrigation facilities were 2.9 t/ha, 0.2 t/ha and 1.5 t/ha. This shows that besides access to agricultural financing, there are other factors that affect productivity of maize.

![Graph showing the impact of irrigation on maize yield](image)

**Figure 4.5 The impact of irrigation on maize yield**

### 4.5 Access to institutional support

Access to agricultural financing should be augmented with adequate skills to put the land to productive use. In that regard, access to extension services becomes paramount. The results show that only 26% of the farmers in the sample were members of a farmers’ union or cooperative. However, 91% of the farmers indicated that they had access to agricultural extension services with 54 (78%) receiving the service from Government (Agritex) as shown in Figure 4.6. However, other providers of extension such as farmers’ unions and input
suppliers are a good sign and their efforts should be recognized to augment Government’s mandate.

Figure 4.6 Access to various agricultural extension services by the farmers in the sample.

4.6 Markets and associated challenges

Majority of the farmers (97%) indicated that there was a ready market for their produce but 90% of them were not happy with the producer prices. This phenomenon explains the reason for side marketing of the produce by 84% of the farmers in search of better prices on the market. These farmers complained that the market deports were too far away from their farms, late payments for delivered produce and the concomitant roads which were in a serious state of disrepair.

These challenges explain the culture of side marketing characterizing the farmers in the sample. The culture of side marketing usually leads to defaults and farmers are then excluded from accessing agricultural financing in the next seasons.
4.7 Summary

The chapter has outlined results of the analysis of socio-economic characteristics of the A2 smallholder farmers in the sample showing that the gender of the farmers is skewed towards males (80%) and 20% females. Most of the farmers were in the 31 to 40 years’ age category. Most of the farmers in the sample are formally employed elsewhere away from the farm (51%) while 49% of them completely rely on the farm for a living. The results from this research study shows that resettled farmers are accessing a variety of finance options to implement their farming programmes. However, the research results show that there is a weak positive linear relationship between maize yield (t/ha) and value of agricultural finance.
CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
The previous chapter presented and discussed the results of the data analysis. This main purpose of this research study was to analyse agricultural financing for smallholder maize farmers in Mazowe District of Mashonaland Central Province in Zimbabwe. The study focused on A2 smallholder farmers.

The specific objectives are outlined below:

- To examine the socio-economic characteristics of the A2 smallholder maize producers in Mazowe District of Zimbabwe
- To analyse critical factors affecting A2 smallholder farmers’ access to agricultural finance
- To investigate the challenges faced by the A2 smallholder farmers in accessing agricultural finance.
- To analyze the impact of access to agricultural finance on agricultural productivity in the study area.

This chapter gives an overview of the research study. It presents the summary findings, conclusions and recommendations. Areas for possible further research are highlighted. A chapter summary is given at the end of the chapter.

5.2 Summary of findings
5.2.1 Socio-economic characteristics of the A2 smallholder farmers in the sample

The results indicate that the land allocations during the Land Reform and Resettlement Programme were skewed towards males as 80% of the respondents were males and females constituted only 20%. Most of the farmers were in the 51 to 60 age category. The results from this study reveals that 51% of the farmers in the sample have no agricultural training background. The study revealed that 40% are full time resident on the farm while 60% are either part time resident (38%) and 22% are completely not resident on their farms.

The research study indicates that majority of the farmers (96%) in the sample accessed land through the government’s Land Reform and Resettlement Programme. Land tenure was cited is one of the critical factors to accessing agricultural financing as results indicate that 65% of the farmers indicated that proof of land ownership in form of an offer letter or 99 Year Lease was critical for consideration under Government Input Support Programme. However, non-bankability of the resettlement tenure documents has hindered most farmers (87%) in the
sample to accessing agricultural credit from commercial banks as only 13% had access to the credit.

5.2.2 Factors and challenges in accessing agricultural finance

Land Tenure, access to agricultural land and access to agricultural finance

Land tenure was found to be the main factor affecting smallholder farmers’ access to agricultural finance. The type of tenure held by most smallholder farmers in this research study could not attract collateral value to guarantee agricultural loans. Non-bankability of the resettlement tenure documents has hindered most farmers (87%) in the sample to accessing agricultural credit from commercial banks while only 13% had access to the credit.

However, the research also established that, despite lack of collateral value, resettlement tenure documents gave the resettled farmers an opportunity to access agricultural financing from Government Input Support Programmes such as Command Agriculture. In fact, all the farmers who accessed inputs from the Government Input Support Programmes (57%) were required to produce an offer letter as a pre-requisite to qualify for the support.

Access to other agricultural finance options

Beside majority of the farmers accessing input support from Government Input Support Programmes, the study revealed that other farmers accessed agricultural credit from Joint Ventures (7%), Contract farming or Value Chain Financing (4%) and own savings from salaries and wages (14%). Only one respondent accessed agricultural credit from a commercial bank upon submitting collateral security. Unfortunately, the farmer’s venture is cattle farming only and not maize production. Despite the risky nature of agriculture as a business, the research study revealed that 81% of the farmers in the sample had not adopted agriculture insurance as a risky management initiative. Ninety-five (95%) of the farmers under government input support schemes had not signed up for agricultural insurance.

5.3 Impact of Access to Agricultural Finance on Maize Productivity

The results of the research study revealed a weak positive linear relationship \( r = 0.63 \) between the two variables, maize yield (t/ha) (dependent variable) and value of agricultural finance. The also indicated that the correlation between the two variables is significant at 95% confidence level. In that regard this model can be used with caution to make predictions for maize yield on the basis of agricultural finance accessed by a farmer. Caution must be taken as there are other factors (natural and managerial), other than finance, which affect maize productivity. The value of \( R\)-square (coefficient of determination) at 0.394 indicates that
39.4% of the variation in yield can be explained by the model using the value of agricultural finance.

5.4 Conclusions
The researcher made the following conclusions based on the findings of the research study with regard to set objectives indicated below:

5.4.1 To examine the socio-economic characteristics of smallholder maize producers in Mazowe District of Zimbabwe
The researcher concludes that socio-economic characteristics of the smallholder farmers affects the farmers’ access to agricultural financing. Most farmers could not access agricultural credit from financial institutions due to lack of collateral. The current tenure system has no collateral security and farmers are expected to pledge security against the borrowings. However, researcher also concludes that the socio-economic characteristics such as age and gender do not have an effect on access to agricultural finance from Government Input Support Programmes as the requirements are limited to holding a proof of land ownership such as an offer letter or a 99 Year Leases.

5.4.2 To analyse critical factors affecting smallholder access to agricultural finance. The researcher concludes that land tenure is the most critical factor affecting smallholder farmers’ access to agricultural finance. Depending on the finance option to be accessed, the issue of land tenure is paramount. The financial sector was not keen to extend agricultural loans to smallholder farmers unless guaranteed by collateral. Government only required proof of access to land and the farmer gets the inputs. Either way, the issue of tenure is the critical factor.

5.4.3 To investigate the challenges faced by the smallholder farmers in accessing agricultural finance. The main challenges faced by A2 smallholder farmers in accessing agriculture financing revolves around the issue of land tenure. The farmers have limited options for agricultural financing. As a result, they have limited bargaining power as they are required to sell their produce to the state where prices may not be competitive.
5.4.4 To analyze the impact of access to agricultural finance on maize productivity in the study area.

Access to agricultural finance is a key factor for improving maize yield. There is a weak positive relationship between maize yield and value of agricultural finance. However, there are other factors such as moisture, that contribute to the equation. Therefore, we cannot safely predict maize yield based on access to agriculture finance only.

5.4 Recommendations

In targeting Upper Middle Income Country status for Zimbabwe by 2030, agriculture is expected to play its role in feeding an industrialising and urbanising nation, supplying raw materials to industry, capital accumulation, foreign currency earning and job creation. This requires that land, its access and use is firmly part of a dynamic financial services system.

In that regard, the researcher recommends the following on the basis of the research study findings:

5.4.1 To address agricultural land tenure insecurity

Government to urgently address the issue of land tenure with a view to improve the agricultural land market. The intervention should lead to making the land tenure documents on resettlement land bankable and transferable in order to attract collateral value to facilitate access to agricultural financing for enhanced productivity on resettlement land. Access to short, medium and long term agricultural credit will result in adequate investment on agricultural land through acquisition of equipment, irrigation facilities and other facilities to build the farmers capacity to produce.

In the interim, it is recommended that Government avail comprehensive input packages to resettled farmers through its input support programmes. It is prudent to avail adequate input packages for intensive farming on affordable arable lands and strive to improve yield from the current national average of 0.9t/ha to regional levels of 5 t/ha.

5.4.2 Establishment of a Land and Agricultural Bank

Establishment of a Land and Agricultural Bank to guarantee access to affordable agricultural finance by the resettlement and communal farmers. When thoughtfully executed, Land and Agricultural Bank can resolve some of the toughest barriers to returning land to productive use and helping to unlock the value of agricultural land market.
5.4.3 Farmer Training

Government to enforce modular training programmes for farmers and farm managers who lack farming skills and experience.

5.6 Areas for further research

The researcher suggests that further research be undertaken regarding possible land tenure reforms in order to improve bankability and transferability of resettlement land to attract collateral security. Dialogue between Government and the banking sector has been protracted without favourable conclusions. It is therefore, high time that scientific study be carried out for evidence based policy formulation regarding resettlement tenure security in the country.

There is also need to carry out further research on profitability of maize farming under the Government Input Support Programmes such as Command Agriculture Scheme in view of low national average yields characterizing maize farming in the country.
REFERENCES


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My name is Kelman Taruwinga, a Masters in Business Leadership student with the Bindura University of Science Education. I am carrying out a research study on Sustainable Agricultural Finance for Smallholder Maize Farmers in Mazowe District, Mashonaland Central Province in Zimbabwe in partial fulfillment of the requirements of the Masters in Business Leadership Degree Programme.

I would be so grateful if you could answer this questionnaire appropriately by ticking the relevant box or as required. Information gathered during this research study will be treated as strictly confidential and will be used for academic purposes only.

Should you require further clarification, my contact details are as follows:

19280 Borrowdale Road
Block 1, Celestial Park
Borrowdale
Harare
+263772874164
taruwinga@gmail.com
Section A: Administration Information

A1 Date of Interview ____________________________________________

A2 Name of Interviewer __________________________________________

A3 Name of Farmer ______________________________________________

A4 Name of Respondent __________________________________________

A5 Time of interview Starting time Finish time ____________

A6 Farm Name Plot number ____________________________

A7 Cell/Phone number __________________________________________

Section B: Farmer’s background & household demographics

B1 Gender of Farmer
1=Male □ 2=Female □

B3 Age
1=less than 20 □ 2=21 to 30 □
3=31 to 40 □ 4=41 to 50 □
5=51 to 60 □ 6=61 to 70 □
7=71 to 80 □ 8= more than 80 □

B4 What is the highest level of school did you attend?
0=None □ 1=Primary □
2=Secondary □ 3=Certificate □
4=Diploma □ 5=Degree or better □

B5 Have you received training in agriculture?
1=Yes □ 2=No □

B6 If Yes, indicate
1=Degree or better □ 2=Diploma □
3=Certificate □ 4=Short Courses □

B7 Besides engaging in farming, do you have any other formal occupation?
B8 What is your residential status on the farm?
1=Full time  2=Part time  3= None

B9 Do you have a manager or supervisor or foreman at the farm?
1=Yes  2=No

B10 Dependants on the farm.

<table>
<thead>
<tr>
<th>CATEGORY OF DEPENDANTS</th>
<th>NUMBER OF DEPENDANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse(s)</td>
<td></td>
</tr>
<tr>
<td>Attending Primary School and Infants</td>
<td></td>
</tr>
<tr>
<td>Attending Secondary School</td>
<td></td>
</tr>
<tr>
<td>Attending College</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

Section C: Land holding

C1 Please complete the following table about your landholding.

<table>
<thead>
<tr>
<th>Year Offered</th>
<th>Total Farm Size (Ha)</th>
<th>Total Arable (Ha)</th>
<th>Total Non-Arable (Ha)</th>
<th>Form of acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1=resettled</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2=Inherited</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of tenure document</th>
</tr>
</thead>
<tbody>
<tr>
<td>1=Offer letter</td>
</tr>
<tr>
<td>2=Resettlement Permit</td>
</tr>
</tbody>
</table>
Do you feel secure with the tenure document you hold?
1=Yes  □     2=No   □

Have you ever been threatened with eviction?
1=Yes □     2=No □

Section D: Land use & farm structures

Did you cultivate the total arable land in the last farming season 2017/2018?
1=Yes □     2=No □

If ‘No’, what are the reasons for not cultivating this other land?
1=Lack of labour □     2=Old age □
3=Lack of inputs □     4=Lack of draft power □
5=Sickness □     6=Fallow land for crop rotation □
7=Lack of finance □     8= Other (Specify) ____________

How do you prepare your land?
1=Hired tractor □     2=Use own tractor □
3=Use own cattle/donkey □     4=Hire cattle/donkeys □
5=Use hoes □
6=Other (Specify) ________________

Do you have irrigation facilities on your farm?
1=Yes □     2=No □
D8  If Yes, indicate the state of the irrigation facilities
   1=Functional  [ ]  2=Not Functional  [ ]

D9  Do you have a documented production and development plan?
   1=Yes  [ ]  2=No  [ ]

D10 Do you keep records for your farming activities?
    1=Yes  [ ]  2=No  [ ]

D11 If Yes, state the records kept
    __________________________________________________________
    __________________________________________________________

D12 If No, state the reasons for not keeping records.
    __________________________________________________________
    __________________________________________________________

D13 Have your farming activities ever been affected by natural factors?
    1=Yes  [ ]  2=No  [ ]

D14 If Yes, indicate

    1=Drought  [ ]
    2=Pests & Diseases  [ ]
    3=Veld fires  [ ]
    4=Floods  [ ]
    5=Other  [ ]  (Specify)
**Section E: Farm Production**

**E1** Which major summer crops did you grow in the 2017/18 season?

<table>
<thead>
<tr>
<th>Crop</th>
<th>Area Planted (ha)</th>
<th>Basal fertilizer. applied</th>
<th>Top dressing fertiliser applied</th>
<th>Herbicides Applied to control Weeds</th>
<th>Pesticides applied to control pests</th>
<th>Quantity of crops harvested (Tonnes)</th>
<th>Quantity of crops sold (Tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Under Irrigation</td>
<td>Under Rain fed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maize</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soya Bean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horticulture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
E2 Please indicate the type and numbers of livestock currently on the farm

<table>
<thead>
<tr>
<th>Type of Livestock</th>
<th>Number of Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
</tr>
<tr>
<td>Goats</td>
<td></td>
</tr>
<tr>
<td>Sheep</td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td></td>
</tr>
<tr>
<td>Broilers</td>
<td></td>
</tr>
<tr>
<td>Layers</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
Section F: Credit facilities

F1 Do you currently have access to agricultural credit from financial institutions?

1= Yes □ 2 = No □

F2 If “No”, what are the reasons for not accessing credit currently?

1= No collateral □
2= Limited information about the credit options □
3= Risk of loan recovery □
4= Interest charges too high □
5= Long Distance to the source of credit □
6= Cumbersome application and evaluation process □
7= Poor Credit History/Defaulted Previously □
Other __________________________

F3 Which credit scheme would best suit your agricultural operations currently?

1= Short term credit scheme □
   *(Seasonal Financing for purchase of farm inputs like improved seed varieties, fertilizers, pesticide and repayment within a year) Duration: 1 Year*

2= Medium-term credit scheme □
   *(Purchase of farm mechanization, cattle, fencing, modern implements & improvements in water facilities) Duration: 2 to 5 years.*

3= Long-term credit scheme □
   *(Purchase of machinery, erection of buildings, dam construction, irrigation systems) Duration: 5 or more years.*
F4 Have you ever applied for an agricultural loan from financial institutions?
1=Yes □ 2=No □ (Skip to F7)

F5 If Yes, was the application accepted or rejected?
1=Accepted □ 2=Rejected □

F6 If rejected, what were the reasons for rejection of the application?
1=Lack of collateral □
2=Poor credit history □
3=Lack of a business plan □
4=No proof of production history □
5=Other (Specify) ________________________________
Please complete the following table regarding your sources of agricultural inputs/credit/finance during the period 2015 to 2018.

<table>
<thead>
<tr>
<th>Farming Season</th>
<th>Source of Credit/finance</th>
<th>Value of inputs received/Accessed or Amount borrowed (US$)</th>
<th>Collateral Demanded and Declared</th>
<th>How the Credit was used by the farmer?</th>
<th>Repayment status</th>
<th>If defaulted, Indicate Reason</th>
<th>Amount Owing (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1=Government programmes</td>
<td></td>
<td>1=Yes</td>
<td>1= Appropriately</td>
<td>1=defaulted</td>
<td>1=Drought</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2=Contract farming</td>
<td></td>
<td>2=No</td>
<td>2=Not the intended use</td>
<td>2=Paid Up</td>
<td>2=Pests &amp; Diseases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3=NGOs</td>
<td></td>
<td>3=N/A</td>
<td></td>
<td>3=N/A</td>
<td>3=Misuse of inputs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4=Own savings from the farm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4=Failure plant the whole targeted land</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5= Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5=Sickness/illness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6=Micro-Finance Institutions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7= Savings from salary or wages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8=Farmer organisations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9=Community savings groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10=Diaspora Remittances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11=Relatives and Friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12=Joint Venture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13=None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14=Other (State)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What were the critical requirements to qualify for the agricultural credit?

1=Collateral security or title deeds
2= Proof of Production/Farming history/Records
3=Proof of Formal Employment
4=Good relationship with credit supplier
5=Good Social Status
3=Personal Guarantor
4=Detailed Business Plan
5=Bank Statement
6=Offer Letter (Proof of access to agricultural land)
7=Other (Specify)________________________________

How do you rate the ease of access to these resources?

1=Very easy
2=Easy
3=Difficulty
4=Very difficult
5=Don’t know

State the challenges faced in accessing the credit?

Have you ever received finance top up or repayment period extension?

1=Yes
2=No

Are agricultural inputs available on time?

1=Yes
2=No
3=Sometimes

Are the finances available on time
F16  Do you insure your farming activities?
1=Yes  [ ]  2=No  [ ]  3=Sometimes  [ ]

F17  If No, state the reasons for not insuring your farming programmes?
________________________________________________________________________
________________________________________________________________________

Section G:  Marketing
G1  Is there a ready market for your produce?
1=Yes  [ ]  2=No  [ ]

G2  Are you happy with the price you sell your commodity?
1=Yes  [ ]  2=No  [ ]

G3  Have you ever side marketed your produce?
1=Yes  [ ]  2=No  [ ]

G4  State any challenges you face with regards to marketing your produce?
________________________________________________________________________
________________________________________________________________________

Section H:  Extension services
H1  Do you have access to agricultural extension services?
1=Yes  [ ]  2=No  [ ]
H2 If yes, indicate
1=Government (AREX/Other) ☐
2=Private/Private traders ☐
3=Farmer Association/Organisation ☐
4=Input suppliers ☐
6=Family tradition/Own experience ☐
5=Other __________________

Section I: Farmer’s Co-operatives/Organisations
I1 Are you a member of any farming organisation/cooperative?
1=Yes ☐ 2=No ☐

I2 If Not, why are you not a member of any farming organisation?
____________________________________________________________________________
____________________________________________________________________________

Section J: Assets Currently owned and Infrastructure
J1 Please complete the table below on assets currently owned and infrastructure developed

<table>
<thead>
<tr>
<th>Name of Assets</th>
<th>Number</th>
<th>Infrastructure</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Function Not</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Functional</td>
<td>Functional</td>
</tr>
<tr>
<td>Tractor</td>
<td></td>
<td>Homestead</td>
<td></td>
</tr>
<tr>
<td>Tractor drawn plough</td>
<td></td>
<td>Workers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accommodation</td>
<td></td>
</tr>
<tr>
<td>Ox drawn plough</td>
<td></td>
<td>Borehole</td>
<td></td>
</tr>
</tbody>
</table>

66
<table>
<thead>
<tr>
<th>Disc Harrow</th>
<th>Planter</th>
<th>Dam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Storage Sheds/Rooms</td>
<td></td>
</tr>
<tr>
<td>Maize Sheller</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grinding mill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trailer</td>
<td>Vehicle(s)</td>
<td></td>
</tr>
<tr>
<td>Boom Sprayer</td>
<td>Knap Sack Sprayers</td>
<td></td>
</tr>
<tr>
<td>Others (Specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

J2 Have you sold any assets or cattle in the previous 3 years to finance your agricultural operations?
1= Yes □
2= No □

End of Questionnaire
Appendix 2: Guide for in-depth interviews

My name is Kelman Taruwinga, a Masters in Business Leadership student with the Bindura University of Science Education. I am carrying out a research study on Sustainable Agricultural Finance for Smallholder Maize Farmers in Mazowe District, Mashonaland Central Province in Zimbabwe in partial fulfillment of the requirements of the Masters in Business Leadership Degree Programme.

I would be so grateful if you could answer the following questions. Information gathered during this research study will be treated as strictly confidential and will be used for academic purposes only.

Should you require further clarification, my contact details are as follows:

19280 Borrowdale Road
Block 1, Celestial Park
Borrowdale
Harare
+263772874164
taruwinga@gmail.com
1. What are the factors affecting smallholder farmers’ access to agricultural finance in Zimbabwe?

2. What is your perception on the bankability of the 99 Year Leases and other resettlement tenure documents for resource mobilization?

3. What measures do you think should be taken to complement efforts to alleviate these challenges of access to agricultural finance by smallholder farmers?

4. What is your perception regarding adoption of agricultural Insurance products by smallholder farmers?

5. What measures do you think should be taken to ensure enhanced response by smallholder farmers to agricultural insurance?

6. What is your perception regarding Government’s interventions in supporting smallholder farmers in Zimbabwe?

Targeted respondents

- Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement
- Ministry of Finance and Economic Development
- Zimbabwe Land Commission
- Farmer Organisations
- Bankers and other Financial Institutions
- Insurance Institutions
- Academia and Research Fraternity
- Civil Society/NGOs

End of the interview guide