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FACTORS AFFECTING BEEF FARMERS' ACCESS TO AGRICULTURAL FINANCE FOR BEEF CATTLE PEN FATTENING ACTIVITIES IN MUTARE DISTRICT, ZIMBABWE

BY

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A DISSERTATION SUBMITTED IN PARTIAL FULLFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRIBUSINESS MANAGEMENT IN THE COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

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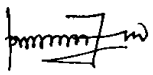
Abstract

Cattle beef fattening allows cattle to improve their degree of finish prior to slaughter. Provision of agricultural finance is key to beef cattle pen-fattening production and productivity. The study was conducted to establish factors affecting beef farmers' access to agricultural finance for beef cattle pen-fattening activities in Mutare district, Zimbabwe. A sample of 105 farmers was drawn from 120 beef cattle pen-fattening farmers. The sample size was determined by the Raosoft (calculates or generates the sample size of a research or survey) sample size calculator with the actual respondents picked using an online random integer generator. The following data collection instruments: household surveys, key informant interviews and focus group discussions were engaged to further inform the study in the review of factors affecting farmers' access to agricultural finance. A Binary Logistic Regression model technique was employed to analyse the factors affecting access to agricultural finance. The study established that access to agricultural finance was positively influenced by the type of currency offered by financial institutions ($p<0.009$), the nature of the collateral requirements ($p<0.082$) and financial products and services offered ($p<0.000$). From the sampled population, the analysis has shown that only twenty-nine (27.6%) of the households accessed agricultural finance while the remaining seventy-six (72.4%) had no access. Profitability analysis was run for the beef cattle pen-fattening enterprise and the results indicated that the return per every dollar invested in beef cattle pen-fattening was $1.23 implying viability of the enterprise. Being a viable business, financial institutions therefore should improve and widen their services offered to farmers such that more farmers consider accessing finance to boost beef fattening production. The financial institutions are expected to expand their penetration into the country-side to address barriers towards financial markets participation by beef cattle farmers. On the other hand, farmers should acquire more bankable assets that can be easily accepted by financial institutions as collateral. This will increase their borrowing capacities and as such increase their production capacity. The government should strive to incorporate bottom-up extension approaches and create an enabling environment for value chain finance coordination and collaboration to facilitate beef cattle production financing as this can be a profitable climate change adaptation strategy among smallholder farmers in Mutare District. Therefore, policy aimed to accelerate agricultural development in terms of accessing finance in cattle pen-fattening could be successful if these factors revealed by this study are taken into consideration.

Key words: Agricultural finance, cattle pen-fattening, finance, Binary logistic regression

Declaration

I declare that this dissertation is my original work except where sources have been cited and acknowledged. The work has never been submitted, nor will it ever be submitted to another university for the award of a degree.



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Dedication

This dissertation is dedicated to my family; your support is second to none. As I now continue on another path, I feel equipped to face any challenge and adversity.

List of Acronyms and Abbreviations

AUREC	Africa University's Research Ethics Committee
ANOVA	Analysis of Variance
CAMPARI	Character, Ability, Margin, Purpose, Amount, Repayment and Insurance
CBZ	Commercial Bank of Zimbabwe
CDM	Cold Dry Mass
CSC	Cold Storage Company
DFID	Department for International Development
DVS	Department of Veterinary Services
EU	European Union
FAO	Food and Agriculture Organisation
FBC	First Bank Corporation
FGDs	Focus Group Discussions
GDP	Gross Domestic Product
GIZ	The Deutsche Gesellschaft für Internationale Zusammenarbeit
GM	Gross Margin
ID	National Identity Cards
IIRR	International Institute of Rural Restoration
IMF	International Monetary Fund
KII	Key Informant Interviews
KIT	The Royal Tropical Institute
KKM	Kuziva Kuudzwa Muchatichiva
LAPP	Liquidity, Activity, Profitability and Potential
LFSP	Livelihoods and Food Security Programme
LMAC	Livestock and Meat Advisory Council
MC	Montana Carswell Meats
MCFA	Mukuni Cattle Farmers Association

MDFA	Marange Dairy Farmers Association
MoHCC	Ministry of Health and Child Care
NGO	Non-Governmental Organisations
OECD	Organisation for Economic Cooperation and Development
RBZ	Reserve Bank of Zimbabwe
RII	Relative Importance Index
SMEs	Small to Medium Enterprises
TR	Total Revenue
TVC	Total Variable Costs
WHO	World Health Organisation
3Cs	Character, Capital and Capacity
5Ps	Person, Payment, Principal, Purpose and Protection

Definition of Key Terms

Agricultural finance: Specialised financial services provision offered to value chain actors by commercial banks, microfinance institutions and other financial institutions in Zimbabwe.

Collateral: Refer to assets which are dedicated by borrowers to lenders as security for loans repayment or debt obligation.

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CHAPTER 1 INTRODUCTION

1.1 Introduction

This chapter introduces the study which focuses on the Factors Affecting Beef Farmers' Access to Agricultural Finance for Beef Cattle Pen-Fattening Activities in Mutare District, Zimbabwe. Mutare lies at coordinates 18^0 58' 30'' S latitude and 32^0 39' 20'' E Longitude and borders with Mozambique. The chapter provides the background to this study, statement of the problem, objectives of the study, research questions, the study assumptions, significance, limitations to and delimitations of the study.

1.2 Background to the Study

The contribution of the agriculture sector to food security and incomes of rural farmers cannot be underestimated. On a global scale, the sector employs over half of the labour force and a means of livelihoods to the majority of rural farmers (IMF, 2012). According to the Organisation for Economic Cooperation and Development (OECD), (2012) together with Food and Agriculture Organization (FAO), the agriculture sector contributes 32% of Gross Domestic Product (GDP) in Africa and around 15% worldwide. In Zimbabwe, the majority of people (70%) reside in the rural areas. They depend on agriculture activities for their livelihoods (FAO, 2017). The livestock sector contributes 25% of the national total value of agriculture output in Zimbabwe (Jenkins, Miklyaev, Afra & Basikiti, 2018), thus a direct significant to growth and development of the national economy.

Post land reform programme, as the government was trying to compensate distortions caused by the land reform exercise, programmes such as government and presidential

input schemes supported farmers though these were skewed towards crops value chains, livestock support was provided towards infrastructure, national herd building and animal health, (Mujeri, 2010), putting less attention on beef production. The disturbances in the livestock sector due to land reform programme culminated into reduced attention on investment in animal health care and financing (Jenkins et al., 2018). This affected its prospective growth, despite its potential as a possible export earner. Commercial production levels if widely adopted by middle level entrepreneurs can potentially perform better considering the cattle resource endowment and the natural climate in the country. This is real, considering that cattle exports used to compete at the European Union (EU) markets, earning US$45 million annually when the Cold Storage Company (CSC) was still the largest meat processor in Africa (Jenkins et al., 2018).

On the other hand, the economic meltdown dating back from 2000, further to 2008 resulted in the sudden shift in growth of the informal sector, causing mushrooming of entrepreneurs in responding to alternative search for other employment ventures, upon collapsing of industries and high unemployment rates (which are above 90%) (Munyoro, Chigunha, Kaseke & Kandewo, 2018). Activities like beef cattle pen-fattening has since proliferated, piloted by few individuals or groups, culminating to benefits such creation of employment and incomes amongst households.

With all this potential and being regarded as a key contributor to national total agriculture output, it is demotivating to realise that the sector faces a number of challenges in particular agriculture financing (Chigunha, Munyoro, Chimbari & Chipoyera, 2018). This was also shared by Masiyandima, Chigumira & Bara (2011), that despite contributing to economic growth, financial support to this sector has lately not been given the earnestness attention it deserves. According to Vitoria et al., (2012)

financial investments towards the agriculture sector in Zimbabwe are not being prioritised as evidenced by agricultural loan books in most commercial banks (Reserve Bank of Zimbabwe, 2006; 2019). A sharp decline in beef cattle production in Zimbabwe by around 21%, stemming from various factors including low productivity, high mortality rates, and poor nutrition consideration can be revived if access to agricultural finance is considered along the value chain (Jenkins et al., 2018).

Beef cattle pen-fattening activities are capital intensive and usually requires large capital outlay especially for starters. Beef cattle farmers are usually constrained in many instances including lack of capital to support pen-fattening activities. Lack of capital limit them to invest in required inputs, right infrastructure and adoption of modern technology in beef cattle pen-fattening activities. Beef cattle farming, like other rural farming activities in Zimbabwe is associated with risks, caused by political, economic and environmental factors, which sometimes agriculture financiers are not willing to invest in the activities of rural farmers. In some instances, the supply and demand for financial services continue to be mismatched considering types and volume of services required (Jessop et al., 2012). This continues creating and widening the so called agriculture finance gap.

Providing agricultural finance to beef cattle farmers can stimulate economic growth, promote export earnings, household incomes and fuel rural development. Key questions in accessing and provision of agricultural finance remain - how best financial services can reach out and suit the demands and circumstances of the rural beef cattle pen-fattening activities? The willingness of financial institutions to offer various products will be interrogated, as well as checking the collateral issues when providing loans to farmers. The other key questions around is to check the cost of acquiring loans from finance institutions by farmers. Are there any government policies to address this

and innovations around value chain financing with renewed interest for uptake? If some of the factors are addressed, this will unlock the potential of this value chain and can result in closing the agriculture financial gap. Thus stimulating investments in beef cattle pen-fattening sector.

1.3 Statement of the Problem

Beef cattle pen-fattening production requires some capital investments to raise productivity. Low accessibility to agricultural finance remains one of the major constraints to beef cattle pen-fattening production, thus negating the drive to increase productivity and commercialize in this sector. Despite contribution by fully communal farmers (75.9%), partially communal or commercial (21.5%) and commercial farmers (2.6%) to the national total herd, a declining in production of around 21% has been witnessed. Moreso other factors such as offtake rates has declined to average 5% in communal areas with average animal sizes falling and overall carcass weight going down to 167kg/ animal. Difficulties among beef cattle pen-fattening farmers include lack of access to financial resources to cover up the production gaps highlighted among other issues. This calls for an evaluation of the underlying causes and the need to address the agricultural finance gap, which is widening for cattle pen-fattening producers. Exploring farm and farmer factors, institutional and the environmental factors to assess how they impact access to agricultural finance for pen-fattening activities is crucial to enhance participation by farmers to agricultural finance markets. A greater understanding of the combination of these factors towards access to finance reduces the widening agricultural finance gap.

1.4 Research Objectives

The overall aim of the study was to find out the factors affecting beef cattle farmers' access to finance for beef cattle pen-fattening activities in Mutare District. The specific objectives of the study were:

1. To identify the factors influencing beef cattle farmers' access to agricultural finance from financial institutions for beef cattle pen-fattening activities in Mutare District.
2. To identify the suitability of financial products offered by financial institutions towards beef cattle pen-fattening farming activities in Mutare District
3. To evaluate how financial institutions are structured and their influence towards accessing agricultural finance by beef cattle pen-fattening farmers.

1.5 Research Questions

The following questions arising from the objectives guided the study:

1. What are the factors influencing beef cattle farmers' access to agricultural finance from financial institutions for beef cattle pen-fattening activities in Mutare District?
2. How suitable are financial products offered by financial institutions towards beef cattle pen-fattening farming activities in Mutare District?
3. How are the financial institutions structured towards offering agricultural finance to beef cattle pen-fattening farmers?

1.6 Assumptions of the study

The prevalence or outbreak of diseases such as theileriosis (January disease) was not affecting the research and beef cattle pen-fattening activities in the district. The good

part is that the farmers already doing pen-fattening activities were controlling the diseases and complying with dipping frequency sessions as gazetted by the government of Zimbabwe through Department of Veterinary Services (DVS).

Financial institutions were willing to provide financial support and services assuming there little or no significant changes in the macro-economic performance in terms of loan disbursement - inflation and interest rates. So seeking agriculture finance from other sources or savings by groups might help the beef cattle pen-fattening farmers in the event of greater significant changes in the financial market and unfavorable conditions for loan applications such inflation and interest rates.

1.7 Significance of the study

The study unpacked the demand and supply side factors influencing access to agricultural finance for beef cattle pen-fattening activities. It further examined the structures and influence of financial institutions together with products and services offered towards beef cattle pen-fattening farmers. The findings of this study is to contribute towards raising awareness amongst beef cattle pen-fattening farmers on how best to access agricultural finance and subsequently improving beef cattle pen-fattening productivity. It will further guide different financial institutions to increase their participation and value in financing this value chain through restructuring, re-examining and tailor-making products and or services that lines with beef cattle pen-fattening enterprises status and requirements. The findings will provide guidance to government policy decision makers towards strengthening its regulation and supervision of financial institutions to increase efficiency and funds allocation to this value chain. Moreover, the government will be better informed on the various capacity building initiatives required by relevant Ministries to support value chain financing in collaboration with financial institutions. The financial institutions are expected to

expand their penetration into the country-side to address barriers towards financial markets participation by beef cattle farmers. The research will add new insights on the existing body of knowledge contributing other factors influencing access to agricultural finance. This will in-turn significantly improve beef cattle value chain studies outlaying the dynamics in agricultural financing and integration into financial markets. Areas of further studies will be outlined at the end of the paper, shaping the direction of the research in its bid in addressing the wellbeing of beef cattle farmers.

1.8 Delimitation of the study

The research focus area was Mutare district Wards 8 (Mukuni), 12 (Ngomasha), 18 (Mudzimundiringe), 24 (Mutsago), 28 (Kushingirira), 29 (Mukwada), and 36 (Dzobo), in Manicaland Province. The district is mostly dominated by Natural Regions IV and V, with some in transition phase between the two. The study was focused on beef cattle farmers specialising in beef cattle pen-fattening. The farmers were in different groups and in various phases of transition and growth. A wider range of finance and government institutions was covered. The presence of various beef cattle pen-fattening groups, butcheries, customer base and finance institutions would give more room to appreciate and understand the underperformance and lack of commitment in financing the value chain by financial institutions.

1.9 Limitation of the study

The study area had mostly its commercial banks outlets in town (where central administration was being done) and in terms of location it was a bit distant to access by beef cattle pen-fattening farmers in rural locale.

The research was carried out in the prevalence of Covid 19 pandemic context which was a risk to participants and the researcher. However, the researcher would comply

with all prevention guidelines and protocols as stipulated by World Health Organisation (WHO) and Ministry of Health and Child Care (MoHCC). Issues such as social distance, wearing of masks and use of face shields and continuously washing of hands using sanitizers was of top priorities. The farmers to participate in the study would also comply with the guidelines.

CHAPTER 2 REVIEW OF RELATED LITERATURE

2.1 Introduction

The chapter presents a review of related literature. An in depth understanding of the theoretical concepts, previous empirical studies and conceptual framework is key. The chapter will further explain the relevance of the theoretical framework to the context of the study.

2.2 Theoretical Framework

2.2.1 Pecking Order Theory

Myers (1984), explained the Pecking Order Theory, which illustrates financing hierarchy within enterprises. The theory proposes that companies or enterprises prefer or prioritises the internal financing mechanisms, which is finance derived from cash flow, retained profits or depreciation. If internal financing is not sufficient to meet the capital required, there is high probability to seek external financing mechanisms, as also mentioned by Asnawi (2013). This can be obtained from various institutions such as banks. Banks provide the most common source of external finance through loans. If not, it can be micro finance loans or local based farmers' internal savings and lending schemes. In addition, cattle pen-fattening activities demands more specialised infrastructure such as pens, handling facilities, storage facilities, feeds and drugs which require large capital and hence additional external funding. The OECD (2015) indicated that bank lending provides the most common source of external funding and it provides start up, cash flow and investment needs. So in Zimbabwe, coming from a background that the financial institutions have failed significantly in the past to finance the agriculture sector post land reform programme, a lot of questions arise about addressing capacity gaps of these financial institutions. This is despite their great

potential as noticed by Reserve Bank of Zimbabwe (RBZ), when a maximum funding of 91% was attained in 1999 (RBZ, 2006; 2019). In addition, it also probes to ask questions like: What are the constraints faced by farmers in accessing agricultural financial services?

2.2.2 Bank Lending Theory

Providers of agricultural finance usually set up some criteria for applicants to meet and the steps that can be followed for potential borrowers to qualify for funding. When potential borrowers meet these requirements, they are considered credit worthy. This means that they have demonstrated the ability and reliability to pay funds back. Jakusonoka and Barakauska (2016) elaborated that a client's ability to repay all liabilities and debts is understood, as the borrowers' creditworthiness. However, when farmers fail to meet these requirements, applications are considered unsuccessful.

Bank Lending Theory postulates a combination of factors that make up a potential borrower credit-worthy (Seyoum (2017) and Feschijan, 2008). Proponents to this Bank Lending Theory proposed a number of models under this category. The models encompass a lot of factors considered by lending institutions for credit worthy consideration. These models guide lenders or financial service providers to assess their clients and make calculated decisions for their potential borrowing power and repaying back. The models were proposed starting from three characteristics (3Cs – Character, Capital and Capacity) of credit. In addition to the Cs, there are 5 Ps (Person, Payment, Principal, Purpose, and Protection), which basically looks at five professional characteristics of credit. In this study this was narrowed down to 5Cs of credit (Character, Capacity, Capital, Collateral, and Conditions), 5Ps, the LAPP (Liquidity,

Activity, Profitability and Potential) and the CAMPARI (Character, Ability, Margin, Purpose, Amount, Repayment and Insurance) models, with characteristics that suits and apply to the study. The 5Cs model explain the character, capacity, capital, collateral, and of conditions of credit access (Abbadi & Karsh, 2013).

In this study it was observed that, the CAMPARI model was suitable, as it considers Character, Ability, Margin, Purpose, Amount, Repayment and Insurance), including financial analysis and past experiences guiding lenders in the assessment of potential applicants' creditworthiness.

When beef cattle pen-fattening farmers decide to source external funding, there are several theories that relate them in terms of the decision making process. At the same time as lenders decide to offer financial services to farmers, there are circumstances that guide these decisions. So, according to Stijn (2005) access to financial services as like any other services is hinged on demand and supply dimension (Awunyo-Vitor, 2018). The demand side interrogates farmer based factors, first the choices made by farmers with regards to financial services offered by financial institutions. Secondly, while, the supply side dimension describes the financial institutional factors, which determines how farmers can access the financial services on offer.

2.2.3 Financial Intermediaries and Delegated Monitoring Theory

Theories related to supply and demand for agricultural finance are examined to get a better understanding the concepts surrounding agricultural finance service provision. In this study it was found worthwhile to explain the theories surrounding the decision making process related to financial services based on demand and supply driven dimension. When farmers do seek for financial services, they depend on lenders, entrusting them to provide excellent services and technical information about a product

on offer. In return, farmers are obliged to do sound investment so as to realise better returns to be able to repay the credit offered. In this case, the Financial Intermediaries and Delegated Monitoring Theory, as postulated by Diamond (1984) relates well to this study. The theory claims that borrowers do delegate financial institutions to be gatekeepers of their investment decisions. This is because borrowers do not have the required resources to perform these functions, so by delegating certain roles to financial institutions, this triggers demand for them to receive the best financial services. So the financial institutions provide technical advice roles regarding a particular service they offer to borrowers, making sure that sound investment and loans decisions are made to their clients for better returns. Due to this, close relationships or partnerships are made between lenders and borrowers, ensuring that depreciation in deposit value or losses are minimised (Awunyo- Vitor, 2018). In this relationship, depositors and borrowers' financial information is strictly confidential. When loan disbursements are done, financial institutions are expected to monitor loan accounts and financial positions for the various transactions in honest, effective and efficient manner, making sure that shareholders wealth is maximised (Awunyo- Vitor, 2018). According to Scumpter (1934), the theory claims the need for the banker to know the various transactions he/she is financing, how it is likely to turn out, the customers and their businesses, private habits and engage in constant frequent communication with borrowers. So the delegation of activities given to lenders by borrowers comes with costs, for example monitoring activities and constant communication between parties. The delegated costs vary and determine whether beef cattle pen-fattening farmers will commit to take up the financial services or not. So when beef cattle pen-fattening farmers decide to access agricultural finance, trust is built between them and loan providers, creating long term partnership.

2.2.4 Choice Theory or Rational Choice Theory

When beef cattle pen-fattening farmers seek for external financing options, the assumptions for their decisions is based on the Choice Theory or Rational Choice Theory**.** Levin and Milgrom (2004), explained the theory as the process of determining the available options and choosing the most preferred options among them following a consistent criterion. It considers the choice behaviour of individual cattle pen-fattening farmers making decisions, when individuals make choice decisions about taking financial services - is a "representative'' of a group in a financial market- who are the farmers.

Awunyo-Vitor (2018), further elaborated that, when individuals make choices, they do so to their best ability to make sure that they meet their objectives in the light of all the uncontrollable factors. The theory seeks to further understand these factors - desire for financial services (be it savings, credit and money transfer services), nature and type of services provided by the financial institutions and the condition under which these services are provided. Further to that it proposes that demand for financial services as a function of the service characteristics, the attributes of the provider of the service and the decision making unit (Awunyo-Vitor, 2018).

2.2.5 Information Asymmetry Theory

For the financial service providers to offer service to their clients such as monitoring activities and credit-worthy assessment, information is required and should be available. Availability of information to both parties (lenders and clients), promotes credibility and builds trust among partners. However, the cases usually result in the other part having more information than the other. Uneven distribution of information causes information asymmetry, which mean incomplete markets. What is normal is a

complete market, where all participants are furnished with perfect information (Coase, 1937). Hence, the information asymmetry theory arises to information problem. Leland and Pyle (1977) gave an insight that financial institutions can facilitate information sharing, thereby minimizing information asymmetries. Adverse selection and moral hazard are two major information problems in credit markets (Mahendri, 2018).

In adverse selection, one person has more information about the risk of a transaction than the other party (Jafee & Russell, 1976; Stiglitz & Weiss, 1981). Mahendri (2018) further explained that adverse selection leads to an inefficient credit market, where banks try to find alternative ways to decrease information asymmetry through setting a high interest rate which is expected to cover the average risk of those activities.

2.2.6 Transaction Cost Theory

Mahendri (2018) applied Transaction Cost Theory noting that financial institutions incur costs when supplying credit to borrowers, known as transaction costs. Benston and Smith (1976) indicated that the key element of transaction theory includes costs associated with gathering and processing information that is needed to reach a decision during the transaction process. That also includes contract negotiation and policing and even enforcement of contracts. They extend to costs such as administration (costs of time to meet borrowers, to monitor and evaluate loans and collect interests) as well as bookkeeping costs (to record and document loans) (Mahendri, 2018). They are different depending on the type service accessed and source of the service. Mellor (1996) and Furubotn & Richer (2005) indicated that the administration costs are relatively higher if farmers get large amounts of loans for bigger businesses, compared to small amounts which most rural farmers prefer. Budastra (2003) mentioned that, the

fact that formal lenders have little known information about their clients, their activities and likelihood of defaulting are high, their lending charges are to borrowers incur high interest charges. The more-closer financial institutions are to cattle pen-fattening farmers, the cheaper the services offered because of reduced transport costs. Financial institutions, with branches far from farmers tend to cover up transport costs, which has a bearing to the farmer, transactions charges usually become higher (Rozali, 2007) and (Etonihu et al., 2013).

Despite living a bit distant from financial service providers – financial institutions are quite ideal to make sure that beef cattle pen-fattening farmers do access loans associated with reduced transactional costs. As highlighted by Piscke (1991) it is ideal for financial service providers to adopt well advanced computerised systems that limits physical and manual activities and automatically fixed costs. This has also been witnessed by rapid expansion of mobile platforms which help remotely access to agricultural finance.

2.3 Relevance of the Theoretical Framework to the Study

This current study was more focused on beef cattle pen-fattening farmers who are constrained in many respects and some are still growing to become well established enterprises. There was a greater dependence on external sources of funding in their operations with little income realised from their internal cash flows. So all the theories highlighted above auger well in this research as they are going to elaborate and explain the constraints and incentives to access agricultural finance, digging deep into the financial institutions arrangements, checking various products, services and requirements for successful loan borrowing and any other institutional setup with an effect on loan access by beef cattle pen-fattening farmers.

So the Pecking Order Theory fits well in terms of financial sources prioritisation. Beef cattle pen-fattening productivity in emerging economies can be improved if access to financial services is enhanced. Access to financial services allows for adoption of new and improved technologies by farmers (Bashir, Yasir & Sarfraz, 2010).

Banks and other financial institutions are statutorily vested with a primary responsibility of financial intermediation function to ensure that funds are available for investments (Chigunhah et al., 2020). So the financial intermediaries and delegated monitoring theory becomes important.

Making informed decisions to seek external sources of funding is critical as highlighted by the Rational Choice Theory. Cattle pen-fattening farmers become empowered to invest and adopt pen-fattening technologies. They can source inputs to enhance productivity and overall incomes. Transformation of their activities and processes to profitable ventures becomes possible. This is explained by Goeringer and Hanson (2013) that bank credit availability is key for enabling the transition of farmers from subsistence to commercial agriculture.

Financial institutions are experts in banking and investment field, that's why beef cattle farmers entrust then to do delegatory monitoring activities. On the other hand, these beef cattle pen-fattening farmers prefer low cost loans which incentivise them to either go for higher loan amounts, repay back without defaulting or even request more loans in next cycles. Depositors need their savings well-kept in safe investment destinations, with prudent for better returns, thus the intermediaries taking this specific role as gurus to ensure safe and sound investment models through selecting and offering to right borrowers. In this case banks employ a lot of creditworthiness steps to guarantee their investment as well as other key requirements

which the study explored, such that beef cattle pen-fattening farmer has to meet and qualify.

The decision making process by beef cattle pen-fattening farmers need to be well calculated. The relevance of the rational choice theory in this study is that, most of these farmers who are doing pen-fattening are in groups and their decision to seek external financial services are usually well consulted. Group based conclusions are usually done to come up with decisions and way forward. This is usually made after assessing the risk factors and feasibility on doing the business on credit.

Perfect information between financial institutions and beef cattle farmers is critical. Offering financial services to clients involves an in-depth understanding of one another. A lot of data is involved, which requires intermediaries to keep it safe and confidential so that no unauthorised persons can have access to it. There is also need for service providers to have an in-depth understanding and history of their clients, be it credit history, current business or enterprises and collaterals to guarantee loans to be given. At least information flow between parties has to balance. Uneven distribution of information results in information asymmetry which has some negative externalities to partner relationship. This can have a bearing on cost to access the service and can act as disincentive to farmers to access loans. So in this case, if both parties share information perfectly, trust is built between them and good relationships is worthwhile for agricultural financial transactions

2.4 Review of Empirical studies

There are a number of possible explanations why agriculture financing is preferred for beef cattle pen-fattening activities. Factors such as borrowers' characteristics, lenders conditions or regulations, among a host of issues, has influence towards a successful

agricultural finance application process (Mahendri, 2018). Mahendri (2018) focused on financing smallholder cattle fattening in Indonesia. The study analysed demand for capital, supply of finance and institutional environment in which the capital operates. The study adopted these methods - qualitative and quantitative. The study identified an increase in demand for bank amongst cattle pen-fattening households, though possible challenges were also found in terms accessing finance. From their analysis, 47% of the farmers failed to access finance and out of these, 26% indicated that they didn't have enough information about loan facilities and application procedures. While the other 21% failed because they couldn't understand loan procedures, lacked collateral requirements, and some didn't repay their interest or loans. Most of the farmers applied for loans through formal banks. This is because interests' rates were subsidised by government and cooperate programs. Analysis of results from banks indicated that they managed to supply 48% of the total allocated subsidised capital for livestock. The results also reflected that there was both high demand and high supply of bank finance for beef cattle pen-fattening activities. The study further indicated that institutional settings are critical in smoothening demand and supply of credit between banks and farmers (Mahendri, 2018).

Another study focused on the factors influencing access to credit for small holder farmers in South Africa (Chauke, Motlhatlhana, Pfumayaramba & Anim, 2013). The study ascertained factors that affect smallholder farmers' access to credit from credit sources in South Africa. By using both qualitative and quantitative approaches, specific predictor variables used were; credit need, attitude towards credit, distance between borrower and lender, farmers' perceptions on loan repayment, lending procedures, total value of assets possessed by the smallholder farmer and the actual time spent per visit to lender in data collection and analyses. The study concluded that

credit need and extension contact had significant positive influences on the respondents' access to credit. Access to credit shrunk with unitary upsurges of the other variables, especially repayment period, risk associated and uncertainty, distance from borrower and lender or vice versa, farmer knowledge or capability and asset accrual. Chauke et al. (2013), recommended establishing of loans offices close-by farmers where bank officials, can develop interests and be familiar with farmers thus reducing lending procedures and risks associated with the process. Education is also needed on other technicalities and perceptions on loan repayment.

A study on the determinants of smallholder farmers' access to agricultural finance in Zambia found factors that affect farmers' decision to access rural finance and the intensity of their participation in the financial markets (Sebatta, Wamulume Mwansakilwa, 2014). The study conducted household surveys in the five provinces from which 13 districts were purposively selected, with 1326 households interviewed (Sebatta et al., 2014). A double hurdle model was used to analyse data. The results indicated that education level of household head, size of household and number of daily meals served significantly influenced decision to access finance while loan payback period, having a phone and doing personal savings predisposed the intensity of participation. The study revealed that government needs to ensure that policy frameworks and reforms are in place in the financial sector to enable more outreach and driving existing institutions to rural areas and incentivizing beginning of new players. Recommendations were made focusing on making sure that smallholder farmers be assisted with cheaper loans, with longer payback periods, to enable them to invest in farm activities that will generate sustainable incomes.

Determinants of access to formal credit by smallholder tobacco farmers in Makoni District, Zimbabwe, were investigated by Dube, Mariga & Mrema (2015). Data from 77 smallholder farmers was analysed using logit regression model. Improving access to extension services, attitude towards borrowing and secure land ownership were important factors in the quest for improved access by smallholder farmers to formal credit in Zimbabwe. The socioeconomic factors such as age of household head, sex of the household head, area cultivated, and experience in credit use, family labour and livestock ownership do not significantly influence access to credit by small holder tobacco farmers. As part of recommendations, the study indicated that there is need to improve extension provision to tobacco farmers as this increases the probability of participating in credit access. In addition, to the above, Dube et al., (2015), indicated that fear of risk or crop failure are some of the highlighted factors causing farmers not to apply for credit. The study mainly explored farmer factors (socio-economic) towards accessing formal credit, however the researcher feels that there is a need to check the lending requirements of various institutions as they also play a bigger stake towards successful credit application and qualification.

A study on characterization of bank lending requirements for farmers in Zimbabwe was done by Chigunhah et al., (2020). The study revealed that commercial banks considers multiple requirements and these were ranked using the Relative Importance Index (RII) weighted scores in order of importance as follows:

(1) High importance requirements - commercial banks prioritised credit history, productive farm assets such as irrigation facilities, business registration documents, productive farm assets, a clear and supported loan purpose, loan amount, repayment source, agricultural production qualification and experience,

insurance, financial statements and business plan, guarantor and social reputation (Chigunhah et al., 2020)

(2) High to medium importance requirements, with the following identified – extension support, business management qualifications, skills and experience, bank account ownership, own contribution to the loan amount requested and personal savings with bank, (Chigunhah et al., 2020).

(3) Lastly, the medium importance requirements such as formal basic education, alternative employment and freehold land ownership were ranked under this category. Lowly ranked factors usually are not much demanded by the commercial banks unlike high and medium importance requirement as explained by (Chigunhah et al., 2020).

2.5 Conceptual Framework

A number of factors, sometimes complex, determines access to agricultural finance for beef cattle pen-fattening activities. Factors influencing access to agricultural finance were investigated in this study. Such factors could be farmer based factors including other socio-economic factors, institutional factors and the operating environment in which particular agricultural finance capital circulates.

Figure 1.1: shows the most important variables influencing beef cattle farmers access to agricultural finance in the study.

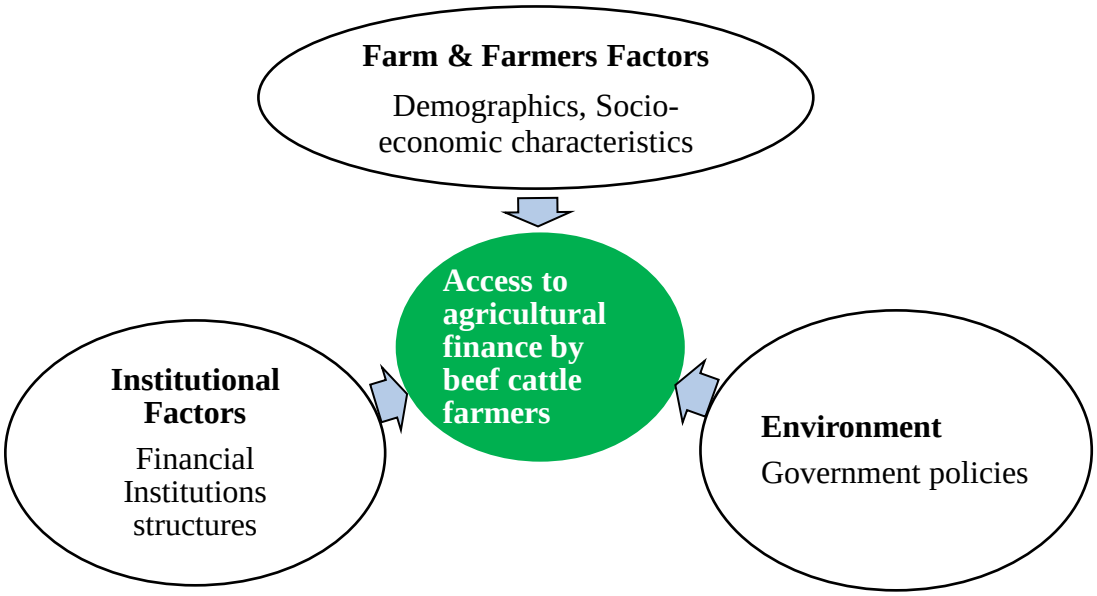

Figure 1.1 Conceptual framework. Source: designed by author

Musembi (2019) in a study on demand for agricultural credit by rural farmers in Kenya, highlighted that households will only demand for credit if there is need to be addressed and if their regular incomes fall short thereby creating a finance gap. The consideration to seek agricultural financial was influenced and determined by a number of factors which might include age and gender of the household, wealth or assets, collateral among a host of issues. On the other hand, the provider of credit or finance (credit market) has certain procedures and requirements that should be met by farmers. So these requirements can act as a barrier sometimes, with farmers opting out while others proceed with the application. Those who apply, either secure the loan or might be denied depending on whether they meet the laid criteria by credit suppliers. There are factors that dictate the amount given to those applicants who are successful. The amount secured might be influenced by the same or different factors as the

decision to participate in the credit market. Access to credit or financial services is expected to increase farmer productivity, enhancing food security, diversification of income streams and better welfare of cattle pen-fattening farmers,

2.5.1 Understanding agricultural financing

Greater understanding of agricultural finance was key in this study. The Royal Tropical Institute (KIT) and International Institute of Rural Restoration (IIRR), (2010) defined agricultural finance as specialised financial services provision offered to value chain actors by commercial banks, microfinance institutions and other financial institutions. Bucker and Krause (2011), in their paper Agricultural Finance – Trends, Issues and Challenges for Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) also indicated that agricultural finance is a sectoral concept which comprises financial services for agricultural production, as well as processing and marketing. It can be short-term, medium or even longer term loans, or can be leasing and crops or livestock insurance. They further indicated that it is a subset of rural finance as indicated in figure below (1.2) demonstrating financial systems components.

So financial services provision can be in form of loans, credit, deposits, insurance or finance from commercial banks, micro finance institutions and other financial institutions (KIT and IRR, 2010), where these financial agents become chain supporters in symbiotic relationships with the chain actor. Provision of agricultural finance usually can be either on a short or longer term financing, involving either small or larger amounts of money, more transparent and less risk in terms of exploitation. Provision of agricultural finance to rural farmers in Zimbabwe is provided as rural finance, agriculture finance and microfinance (Munyoro & Chirimba, 2017). Loan or credit is the most common facility extended to farmers from the lender to the borrower and is repayable at maturity, which may range from a few days to several years (Salami

et al., 2013). For credit transactions to be completed the borrower must provide some evidence of debt obligation in return for the loan where the loan is based solely on good reputation, financial position of the borrower and trust (Salami et al., 2013).

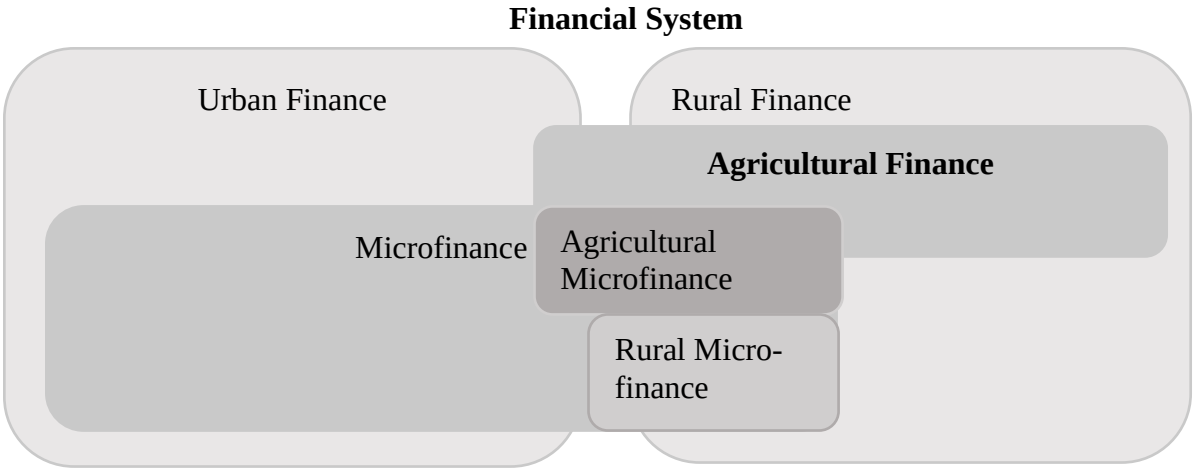

Figure 1.2. Diagram indicating agricultural finance paradigm, adapted from GIZ (2011).

2.5.2 Determinants of agricultural finance

The aspects of agricultural finance access in developing countries is provided under three categories – formal, semi-formal and informal credit (Linh, Thanh Long, Van Chi, Thanh Tam & Lebailly, (2019) as indicated in the below fig 1.3. Commercial banks provide formal sources of agricultural credit to farmers. Cooperatives, informal credit associations, individual money-lenders and relatives/ friends do provide informal agriculture credit. While semi-formal sector includes microfinance institutions, government supported schemes and NGOs (Diagne, Zeller & Sharma, 2000).

As indicated by figure 1.3, the factors that influence access to agricultural credit amongst farming households has two dimensions - demand side and supply side (Stijin, 2005). According to Zeller (1994) borrowers are the ones who requires credit

- this is the demand side – with agriculture credit demand factors, while lenders are the providers of agricultural credit (supply side factors). According to Awunyo – Vitor (2018), the demand side looks into choices made by individuals in respect to services provided by financial institutions and the supply side considers financial services provision or financial intermediation. Diagne et al., (2000) in their studies on access to credit and credit constraints in developing countries explained that demand factors can provide information related to whether a household is credit constrained or not. While the supply factors are based on borrowers' side and can represent the amount farmers can get from a given source of credit.

The framework below displays determinants of access to agricultural credit.

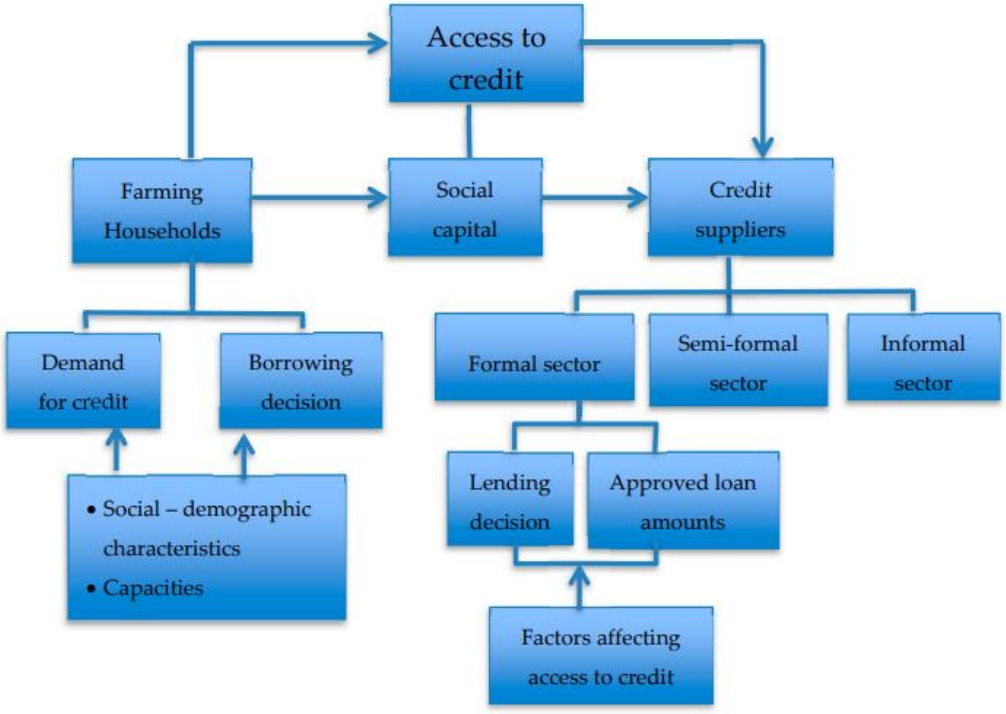

Figure 1.3 Access to Rural Credit Markets in Developing Countries, Vietnam. Adapted from Linh *et al.*, (2019).

Household socio-economic characteristics and capacities affect beef cattle farmers' decisions towards agricultural finance. On the other hand, social capital and or

networks between the actors in the access to credit framework do affect delivery and access to agricultural finance (Linh et al 2019). Loan processing requirements and amounts might be different between formal, semi-formal and informal institutions. This also extends to loan application procedures and processing turn-around time.

2.5.3 Provision of Agriculture Finance in Developing Countries

According to Awunyo – Vitor (2018) most developing countries have intervened to improve access to financial services in the agriculture sector. They have established state vehicles such as financial institutions following the Keynesian principles and design. This is through cooperatives agencies and state banks. But however, as Berger et al., (2002) explained, this approach has been met with a lot inefficiencies compounded with moral hazards and adverse selection, thus creating a gap in agricultural finance supply in developing countries. Farmers in most parts of Africa access agricultural finance through different channels, ranging from formal, semi-formal and informal systems (Sebatta et al., 2014). Burritt (2006), highlighted that most households in Malawi faced challenges when accessing finance from both formal and informal institutions, with many trade-offs in terms convenience and product diversity. In many developing countries as indicated by Mangahele (2010), in Botswana, Mozambique and Ethiopia access to credit by rural farmers has been burdened for many decades and this is widening the agricultural finance gap. However, as explained by Stijn, (2005), access in developing countries like anywhere, is affected by demand dimension of access and supply dimension to financial services.

2.5.4 Provision of agricultural finance in Zimbabwe

Provision of financial services involves a broad range of institutions with different levels of requirements and formalities. These depend on the location and distances

between financial institutions and farmers, for example, within urban setup, we find mostly commercial banks and other micro finance institutions, while in the rural areas, their branches reduce concentration, even close to none, and the microfinance institution has taken up the gap together with other community based Savings and Credit Cooperatives (SACCO). The growth and transformation of the agricultural finance sector has seen the growth and offshoots of other community based semi - informal cooperatives such as SACCO unions, savings groups, credit cooperatives and they have grown becoming more structured, adopting different levels of differentiation and professionalism (Bucker et al., 2011). As Asnawi (2013), outrightly state, the factors affecting farmers to access agricultural finance is a two-way derivation. It can either emanate from banks (banking factor) which is providing the service or from the farmers doing cattle pen-fattening activities (farmer factor) who are the ones accepting the service. Providers of financial services usually set requirements to their anticipated borrowers, which farmers are unable to reach or a few able.

2.5.5 The Agricultural Finance Gap

According to KIT and IRR (2010), a description of finance gap exists when there is lack or no finance to make enterprises work. Entrepreneurs need financial services from banks and other financial agents to keep operating and growing their businesses. Beef cattle pen-fattening farmers can be deterred from accessing loans from commercial banks and micro finance institutions. Some of the procedures are complex and requires multiple documents and steps. Access from commercial banks is more inclined towards political networking for example some loans offered in the past were for Women and Youths registered from within a political party. So the undeserving tend to benefits. This results in underserving the sector thus the growth of the economy is slowed. On the other side, financial institutions are not much worried about serving

the rural farmers as they doubt their ability to repay back. Thus the gap further widens from all angles. These quantum of experiences continues to widen the finance gap hence constraining business development.

2.5.6 Beef Cattle Pen-Fattening Concept

Cattle beef fattening enables cattle to improve their degree of finish prior to slaughter. The concept as explained by Gogoro (2015) involves feeding animals under confinement with protein balanced and high –energy diet. The fattening period spans from 70 to 120 days (Gororo, 2015). Beef cattle pen-fattening producers are able to do quality production when good pastures are not available. During fattening cycles, cattle producers ensures that the right amount of feed is given to obtain higher carcass mass, improved fatness and fleshiness, taking advantage of seasonal price fluctuations and to have a consistent supply of quality beef to meet market needs (Gororo, 2015: Munyoro, 2018). Pen-fattening is the most ideal for many abattoirs and it can be on-farm feedlots, commercial feedlots or custom feedlots (Gororo, 2015). However, the type of production in the district includes on-farm and custom feedlots. Beef cattle production is usually capital intensive. In Marange area, Mutare, whenever farmers get extra income – especially from diamond fields, they channel the funds to stock up their herd. Which then, they will use to offset for general production or mixed rearing. So it's possible to have one household with more than 20 beasts herd size. This is the most common characteristics of the farmers residing in Marange area around diamond mining. In times of droughts or lean season times of the year farmers sell their cattle to buy food and support family wellbeing. It is imperative that this study is premised on that beef cattle pen-fattening activities improves animal weights of cattle and sale value on the market.

2.5.7 Reasons for Beef cattle pen-fattening activities

Cattle remains a symbol of wealth amongst rural dwellers in most regions of Africa. So, beef cattle pen-fattening activities improves animal live weight and improves the degree on finish during offtake times (Gororo, 2015). Gaining extra weight increases turnover at disposal and profitability to the farmers, (Tavirimirwa et al., 2013). Gororo, (2015), further explained that abattoirs or the market in general demand for quality meat, which is obtained upon improving fatness and fleshiness during pen-fattening cycle, thus better grades and achievement of higher prices at markets. Doing pen-fattening enables farmers to consistently supply the market and take advantage of seasonal chances in the year, thus as well beating up price fluctuations allowing farmers to produce when most of the prices are attractive.

2.6 Summary

This chapter has looked at the theoretical framework and the conceptual analysis guiding the study. The literature review was guided by the research questions which addressed the factors affecting beef farmers' access to agricultural finance for beef cattle pen-fattening activities in Mutare district, Zimbabwe. The following chapter will explore the research methodology used in the study.

CHAPTER 3 METHODOLOGY

3.1 Introduction

This Chapter highlights general description of the methods used to conduct this research. The research paradigm used was developed first for the study. The second part covers the research design, selection criteria for the interviews, data collection approaches and techniques, sources of data and the reliability of the data. Data management techniques and empirical tools of analysis are discussed later in the study.

3.2 The Research Design

The study applied the mixed methods research approach with an analytical cross-sectional research design. Cross sectional study designs measures outcomes and exposures in study participants at the same time. They combine both quantitative and qualitative research approaches, viewpoints, data collection process and analysis to gain a broad depth and understanding in terms provision and access to agricultural finance. Descriptive and explanatory analysis was derived from the variables affecting access to agricultural finance, with in-depth analysis of products and their suitability to pen-fattening activities explored. The research approach was formal, guided by research questions. Specific interviews were done focusing on beef cattle pen-fattening households, while focus group discussions were carried out to cattle pen-fattening farmer groups and key informant interviews targeting beef cattle pen-fattening agribusiness entrepreneurs, banks, micro finance houses, cooperatives, village leaders and government institutions.

3.3 Population and Sampling

The researcher defined the research population of the study, its determination, study sample, sample size, sampling process and data collection processes.

3.3.1 Sampling frame

According to Cooper and Schindler (2014), the sampling frame was closely related to the population. It is the whole totality list of elements, where a sample is taken or drawn. So in this study, the following was considered:

Beef cattle pen-fattening farmers in Mutare District – Wards 8 (Mukuni), 12 (Ngomasha), 18 (Mudzimundiringe), 24 (Mutsago), 28 (Kushingirira), 29 (Mukwada), and 36 (Dzobo). The beef cattle farmers were organised into groups for their cattle pen-fattening activities. So the numbers vary between groups and wards. The total population from these wards reached 120 farmers doing beef cattle pen-fattening activities. At clustering the farmers then constituted, Cluster A consisting of 3 groups of farmers with a total ownership of 47 farmers, while Cluster B resulted into 4 groups, with membership total of 73 farmers. Land ownership was either communal and commercial production scale. An observation amongst the groups was that, they were different in terms of level of maturity as determined by group maturity index indicators.

3.3.2 Sample and Sample Size

From our main population (beef cattle pen-fattening farmers), an appropriate sample size of 43 farmers was derived using the Raosoft Sample Size calculator for Cluster A. While for Cluster B, sample size of 62 farmers was derived using the Raosoft Sample Size calculator. A total of 105 farmers were covered in this study.

3.3.3 Sampling process and procedure

3.3.4 Cluster sampling

To ensure true representation, the researcher adopted the cluster sampling techniques. This used the probability sampling process. So the following stages were applied:

1. Defining the population
2. Dividing the sample into clusters
3. Randomly selecting clusters to use as my sample
4. Collecting data from the samples

So the target population was:

- Beef cattle pen-fattening farmers in Wards 8 (Mukuni), 12 (Ngomasha), 18 (Mudzimundiringe), 24 (Mutsago), 28 (Kushingirira) 29 (Mukwada) and 36 (Dzobo) of Mutare District.

The farmers all combined were members of 7 groups. Due to their differences in terms of production capacity and maturity, the researcher started by classifying them into clusters so that at least every potential characteristic of the entire population was represented and became homogenous. The classification resulted in two clusters. Cluster A consisted of 3 groups combined of beef cattle pen-fattening farmers who were more advanced in terms of commercial production, they have also matured in terms of experience compared to the other cluster. Cluster B contained 4 groups of farmers. They were in between mid-level production to commercial scale. So the results of the expected cluster sampling procedure stage 1 (one) was as in Table 3.1:

Table 3.1: Showing targeted population clusters by groups, wards and membership

Cluster	Group Name	Ward	Membership
A	Mukuni Cattle Farmers Association (MCFA)	8	22
	Dzidzai Beef Association	28	12
	Kuziva Kuudzwa Muchatichiva (KKM)	29	13
Sub- total			**47**
B	Marange Dairy Farmers Association (MDFA)	18	24
	Dzobo Beef Association	36	12
	Kuzwanana Beef Association	24	25
	Progressive Beef Association	12	12
Sub-total			**73**
Grand Total			**120**

3.3.5 Sample size calculation process for Cluster A

The Raosoft Sample Size Calculator was used to determine sample size for Cluster A. A sample size of 43 farmers were picked for Cluster A at 5% margin of error, 95% confidence level from a population size of 50 farmers.

3.3.6 Sample size calculation process for Cluster B

The Raosoft Sample Size Calculator was used to determine sample size for Cluster B. A sample size of 62 farmers were picked for Cluster A at 5% margin of error, 95% confidence level from a population size of 73 farmers.

3.3.7 Selection of Sampled farmers

In Cluster A, a total of 50 farmers were numerically pre-coded from 001 to 050. Then using a random number generator, random generation of 43 random numbers was done and these were applied to the previously pre-coded population units in the database to select the actual respondents.

In Cluster B, a total of 73 farmers were numerically pre-coded from 001 to 073. Then using a random number generator, random generation of 62 random numbers was done and these were applied to the previously pre-coded population units in the database to select the actual respondents. Thus coming up with 105 farmers that were covered in this study.

3.4 Data Collection Instruments

The following instruments were used to collect data for this research.

- Household surveys
- Key informant interviews.
- Focus Group Discussions – farmer groups

3.4.1 Household surveys

The researcher used primary data obtained through household surveys to achieve the objectives of the study. At least 105 beef cattle pen-fattening households who either accessed or failed to access finance were studied. This gave the researcher an opportunity to appreciate and analyse the factors that enhances or limit access to credit. Designed questionnaires, (piloted first) were used to gather information about the structure, scale, model or system of beef cattle fattening farming in Mutare District. Factors determining access to credit by beef cattle farmers were identified. The questionnaires were used to interrogate information around characteristics of the beef cattle farmers, beef cattle production systems (practices, scale, management,

marketing and profitability), incomes and credit. Data related to household characteristics, demography, socio-economic characteristics of households, farmer factors enabling or hindering access to agricultural loans, financial products and services offered by lenders for analysis was collected as well. Semi-structured and structured questionnaires were used in the study for data collection.

3.4.2 Key informant interviews

Key Informant (KI) interviews were administered to banks, microfinance houses, local leadership, committees for beef cattle farmer groups and other key government stakeholders from Ministry of Agriculture, Veterinary and Agritex Departments who provided respective information to the research**.**

The key informant farmers interviewed were part of subset of respondents selected in the survey. Farmer selection was based on knowledge and position of the farmer amongst beef cattle pen-fattening farming groups. This provided quality insights to the study. To get much insight into the supply side of the finance market, interviews were done to institutions. Key personnel interviewed provided key technical responses with in-depth analysis in the study.

Participating banks includes Steward Bank and First Bank Corporation Limited (FBC) Bank. A total of four (4) banks were targeted for key informant interviews, however two (2) of them managed to respond within the targeted timeline for the study**.** While for micro finance institutions, the researcher included one (1) of micro finance houses - Micro Plan.

Information obtained from the Livestock Meat and Advisory Council (LMAC) was useful as well as it provided some insights around beef cattle pen-fattening activities

performance. The researcher was granted permission through a supporting letter from Africa University's Research Ethics Committee (AUREC).

3.4.3 Focus group discussions

Focus Group Discussion (FGDs) sessions were held with various farmer groups and gained an in-depth analysis of the various factors influencing access to agricultural finance. The questionnaires were pretested, then evaluated for their accuracy, ease of administration, consistency and clarity as well as just having an average anticipated total administration time.

3.4.4 Secondary Data

Secondary data was collected from banks, government reports and other private sector players such as Surrey and Montana Carswell Meats (MC Meats) as part of analysis and triangulation to check access to agricultural finance in the beef value chain.

3.5 Study Area

The research was carried out in Mutare district, which lies in the eastern highlands in Manicaland Province. Mutare lies at coordinates 18^0 58' 30'' S latitude and 32^0 39' 20'' E Longitude and borders with Mozambique. It is the fourth largest city in Zimbabwe. The district is mostly dominated by Natural Regions IV and V, with some in transition phase between the two. Mutare city and its surrounding areas experiences cool and warm weather conditions, with annual ranging between 450 – 1050 mm, mean annual minimum temperature ranges between 9 to 12^0C and mean annual maximum of 25 to 28^0C (Moyo *et al*, 1993). The study focused on beef cattle farmers specialising in beef cattle pen-fattening activities.

3.6 Data Collection Procedure

Before data collection process, the local authorities and all relevant stakeholders in the study were notified and necessary documents shared to all respective office bearers. The study prioritised seeking consent from the participants, so that the procedure is voluntary and inclusive. The study used mainly primary data collected through structured questions from farmers and various stakeholders in the beef cattle value chain. The use of multiple sources for comparatives and drawing conclusions (triangulation) and cross checking data sources provided with valid and reliable results for the research. Collection of data was done from a total of 105 farmers in the district, plus key informant interviews targeted at various bank officials, micro finance institutions, key government departments, and focus groups discussions covering various farmers in beef cattle pen-fattening activities. The data collection period was pegged for January 2021. The collected data was then cleaned and analysed.

3.7 Analysis and Organization of Data

Qualitative and quantitative techniques were applied to analyse the data. Survey findings were analysed using descriptive statistics. The analysis determined averages, minimum, maximum, frequency or percentages distribution of the data. Further statistical analysis was used to determine associations and relationships between variables (logistic regression) and analysis of significance – t-test, ANOVA. The t- test and Chi-square tests were used to measure mean and percentage differences between credit users and non-users. The SPSS was used to analyse the data. Evaluation of the factors influencing access to agricultural finance by beef cattle pen-fattening farmers were analysed using descriptive statistics with the data presented as charts, graphs and tables. The binary logit model best fit the analysis to the factors determining access to

agricultural finance by beef cattle pen-fattening farmers. Thematic content analysis was employed to interpret qualitative information obtained from the interviews.

3.7.1 Analytical Framework

Descriptive statistics such as averages, frequencies and percentages were used to analyse data collected through surveys. Presentations was done in form of tables, graphs and charts to better understand the interpretations and relationships. Statistical analysis to determine relationships and associations (logistic regression) between variables and analysis of significance – (ANOVA and t – test) was used in the study. The binary logistic regression modelling was applied to determine the factors influencing access to credit.

Table showing a summary of research objectives, the data requirements and analytical tools used to test the proposed hypothesis

Table 3.2 The objectives, data requirements and the analytical tools in the study

Objective	**Data Needs**	**Analysis Method**
To identify the factors influencing beef cattle farmers' access to agricultural finance from financial institutions for beef cattle pen-fattening activities in Mutare District.	Factors influencing access to agricultural finance in beef cattle pen-fattening activities	Descriptive statistics Survey – Fattening households Interviews – fattening farmer groups and key actors - Butcheries Binary logit model analysis Reports

To identify the suitability of financial service products offered by financial institutions towards beef cattle pen-fattening farming activities in Mutare District	Range of services or products offered by financial institutions and their suitability to pen-fattening farming	Descriptive statistics Interviews – fattening households Interviews – Bank Officials Data sources includes – Annual Reports
To evaluate how financial institutions are structured and their influence towards accessing agricultural finance by beef cattle pen-fattening farmers.	Institutional factors, and structures towards delivering financial products	Descriptive, statistical Deductive and inductive approaches will be used, and summaries derived from the data – Annual Reports Interviews – Bank Officials

3.7.2 Description of Variables

3.7.3 Dependent Variables

Dependant variables of the study are - Access to credit and No access to credit. The binary logistic model was used to define a situation where the beef cattle farmers accessed credit (Y=1) and another one for situations where farmers did not access credit (Y=0) – all from either formal or informal financial institutions. With an assumption that X is a vector of explanatory variables, with p being the probability

(Y=1) - that farmers accessed credit. So two probabilities can be derived (1) that of access to credit and (2) that of not access credit. The two probabilities will then present an outcome of the logit transformation of the odds ratios.

3.7.4 Independent Variables

The study explored the various components influencing access to agricultural finance. So the independent or explanatory variables covered in this research incorporated farm and farmer factors or characteristics, institutional factors, and the environment.

Farm and farmer characteristics covered the socio-economic factors that enhances famers to demand for credit. These can be personal level factors or the farm in general. For example, demographic factors – such as age, gender, and education (beef cattle pen-fattening entrepreneurial experience, training and social capital) of beef cattle farmers. While the farm factors covered land size, land ownership, assets and livestock ownership.

Institutional structures covered were financial institutions, the private sector and government arrangements in terms of offering and easing access to agricultural finance to beef cattle pen-fattening farmers. Under financial institutions, the study explored how financial services were being extended to beef cattle farmers in terms of outlets or branches closer to farmers, technical support and arrangements to buttress their products, and types of loans that were available for the beef pen-fattening activities. While on the government side, interaction with various line departments supporting beef cattle production, extension education and trainings and the policies around access to agricultural financing was done. The economic environment in which the capital or products were circulating was critically scrutinised.

3.7.5 Model Specification

Data from survey was analysed using binary logistic regression modelling technique to determine factors influencing access to credit. Two categories were identified, in the dependent variable, that is event A and a non-event A (Harrel, 2001). Moreover, Harrel (2001) suggested that the model shows how a set of independent variables (X's) are related to a dichotomous response variable Y (In (P_i/1-P_i). The dichotomous response variable Y =0 or 1 where Y= 1indicates the circumstances of the event of interest while Y=0 represent otherwise. The dummy variables characterize dichotomous responses.

The researcher used the method of Mahendri (2018), on financing small holder cattle fattening in Indonesia – integrating demand, supply and institutions where only two options were available, which here is the same as this study namely access to finance or no access to finance was adopted. A binary logistic regression model was set up to define Y=1 for situations where fatteners obtained finance and Y=0 for cases where the fatteners did not access finance from either formal or informal sources.

So the multiple – binary regression model adopted for the estimation derived as:

$$\mathbf{Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 ... + \mu}$$

Where:

$\mathbf{Y_i}$ is the dependent variable defined as access to credit which can be 1 and 0 otherwise, β_0 is a constant of the equation, was adopted:

$\boldsymbol{\beta_1, \beta_2}$ **to** ... are regression coefficients

$\mathbf{X_1, X_2}$ **to** ... are independent variables

$\boldsymbol{\mu}$ - Standard error term

$\mathbf{X_1}$ = Interest rate

$\mathbf{X_2}$ = Distance between farmers and financial institutions

$\mathbf{X_3}$ = Product/ service offered by financial institution

$\mathbf{X_4}$ = Collateral

$\mathbf{X_5}$ = Sex of the farmer – whether male or female

$\mathbf{X_6}$ = Currency in which the loan was accessed

$\mathbf{X_7}$ = Cattle owned

$\mathbf{X_8}$ = Income from beef cattle pen-fattening

3.7.6 Regression Model Analysis

The collected data was entered into SPSS spreadsheet and analyzed using the binary regression modelling technique. Factors affecting beef cattle farmers' access to agricultural finance for pen-fattening activities were then analyzed in the study area. This model has been adopted in social sciences field where prediction of the presence or absence of an outcome based on values of a set of predictor variables is needed. The logistic regression model estimates odds ratios for each of the independent variables in a model (Wooldridge, 2009). Harrell (2001) explained the situations in which the model fits. According to Harrell (2001), the binary logistics has only two categories in the response variable, this is either an event A or non- event A. The model shows how a set of explanatory/ predictor variables (X's) are related to a dichotomous response variable Y ($\ln (P_i/1- P_i)$. According to Chauke et al., (2013) the dichotomous response variable Y=0 or 1 with Y=1 denotes the occurrence of the event of interest while Y=0 denotes otherwise. The dummy variables characterize dichotomous responses. In this particular study only two response options were presented, 'access to agricultural

finance'or 'no access to agricultural finance'. Thus binary responses defined as: Y =1 where situations relate farmers' access to agricultural finance and Y=0 where the farmer didn't access agricultural finance.

3.8 Gross Margin Analysis

The data was introspected for viability of cattle pen-fattening enterprise in Mutare District using gross margin analysis. The analysis provided some evidence and capacity of farmers to take up and repay back loans offered by financial institutions. Profitability indicates viability and sustainability of an enterprise; thus banks can cross check possibility risks before committing their investment. If pen-fattening activities in Mutare District is viable, it motivates farmers to venture into beef cattle pen-fattening enterprise and also lures banks to invest their monies amongst beef cattle pen-fattening farmers.

3.9 Ethical Consideration

The following ethical considerations were taken into account and upheld during the study. They contributed to the quality of data output and subsequently the reliability of the outcomes.

- **Right to confidentiality –** every respondent or participant in the research has a right to confidentiality. Security and limited access to data for participants should was guaranteed. Those involved and important in the study were promised access to it, which means anybody who has nothing to do about a particular study shouldn't access information
- **Right to privacy –** The interview process respected the rights to privacy. Those who were interviewed, whenever they felt they need privacy away from other people to express their opinions were all respected. The right to withhold the information was

respected, hence, some of the information and session takes privacy respecting the confidentiality it deserves.

- **Right to free consent –** The researcher got permission from the participants to seek information. They were not pressured to participate in the research.
- **Right to anonymity –** The research used every possible way to ensure that anonymous identities are used in the research tools and data collection instruments. Wherever they feel to withdraw from the research activities, they were asked to do so.
- **Use of appropriate methodology-** The adherence to right procedures was uphold. This included use of systematic and objective procedures to collect information rather than shortcuts in collecting information.
- **Appropriate reporting –** the adherence to good reporting and feed backing skills was prioritised. Conclusive and compete findings will be shared to audience in an unbiased manner.

3.10 Summary

The chapter shared an overview of the research method used during the study. It gave an overview in terms of the research design, study population, sampling methods, data collection instruments, and analysis adopted.

CHAPTER 4 DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the study findings. Discussions thereof relative to empirical studies from other authors and the insights gained at data collection and analysis by the researcher will take the centre stage. The process of data collection and analysis was followed as explained in the third chapter on methodology. The chapter begins with a clear description of the population covered under this research, the respective demographics summarized by descriptive statistics, which consists of socioeconomic characteristics of beef cattle pen-fattening farmers in Mutare district. The measures of central tendency that consist of the means, maximum and minimum summarized continuous variables whereas frequency distribution summed up categorical variables. Policy implications were identified with presentations expected to be done as part of recommendations in chapter five.

4.2 Data Presentation and Analysis

4.2.1 Farmers' demographic and socio-economic characteristics

The result of the analysis revealed that the majority of the interviewed households were male-headed (79 percent) while female-headed households constituted (21 percent) of the sample. A greater proportion was constituted by married households (79 percent). The results indicated male dominance in beef cattle pen-fattening activity. This results portrayed the same as that of Dube et al., (2015), were the majority (85.7%) of households were male headed amongst tobacco farmers. The findings also relate to what Chauke et al., (2013) discovered in Limpopo Province where the farming operations were male-dominated. The trend notice among these households confirms with the general farm control and ownership in Africa, as most households are headed

by male farmers. From the sampled households, the age of household heads varied considerably from as young as 23 years (minimum) to 81 years (maximum) old. But the average farmer age was 54 years among the participants. Generally, it was observed that cattle ownership and participation in access to credit is mostly linked to the elderly compared to the youths. The assumptions are also that many financial institutions may consider age as a proxy for maturity and this subsequently translates to good handle and use of borrowed loans and repayment. Besides, old age resonates to experience in beef cattle pen-fattening experience and sourcing of agricultural finances (Kosgey, 2013). The results are in contrary to the findings by Sekyi, Musah Abu & Nkegbe, (2017), that older farmers are less productive and considered high-risk clients by financial institutions when being compared to younger farmers.

In terms of marriage, 79% of the households were married, while 15.2 percent reported being widowed and 5.7 percent were single. Kibirige (2008) posits that marital status is important in decision making thus married people are likely to come up with better decisions than other marital groups. Doan, Gibson & Holmes, (2010) also indicated that married households with better communicating relationships borrow more often from formal credit lenders and tend to avoid informal credit sources.

Table 4.1. Gender, marital status in respect of access to finance.

Variable	Class	Frequency	Percent	Access to finance	
				Yes	No
Gender	Female	22	21	7	15
	Male	83	79	22	61
Marital Status	Single	6	5.7	1	5
	Married	83	79	22	61
	Widowed	16	15.2	6	10

From the study results, about 67.6% indicated that they have gone through secondary education, followed by 25.7 % who attended up to primary level. A total of 2.9% of the farmers managed to pursue into diploma level. This is the same with beef cattle farmers who reached college level (2.9%). Less than 1% of the farmers expressed none in terms of attending school.

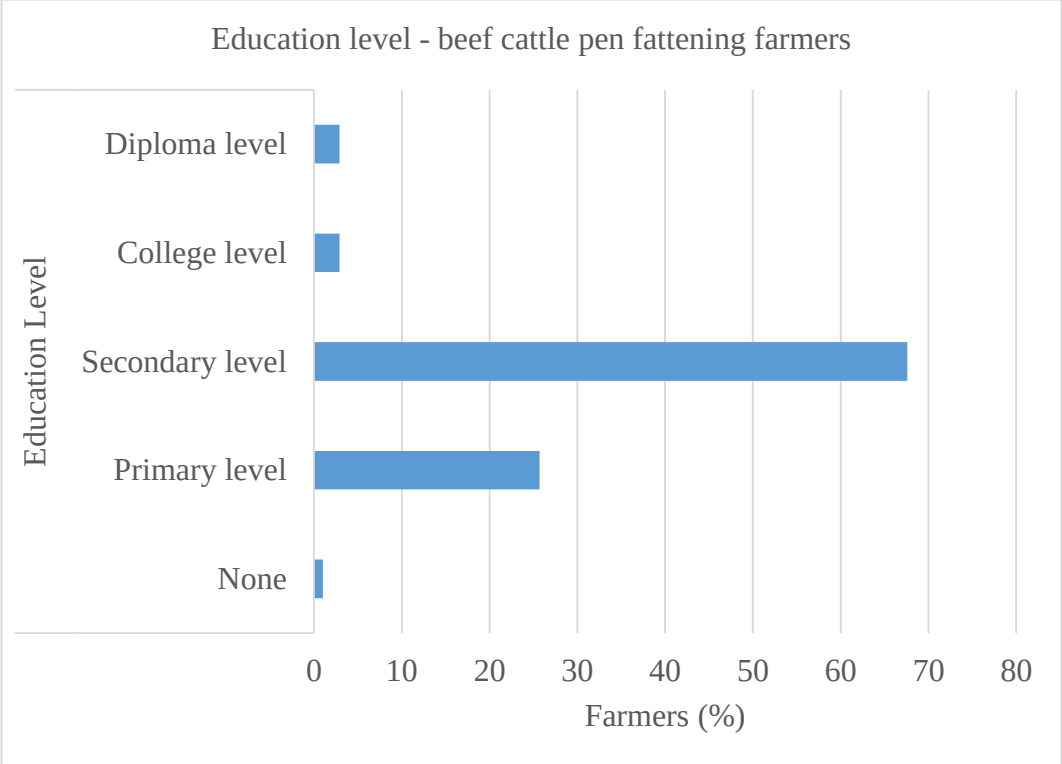

Figure 4.1. Education level of beef cattle farming households

Attainment of certain level of education helps beef cattle farmers appreciate the need to finance their production. Attaining secondary education might mean that the farmers have better technical knowledge, farming skills, more information on credit markets and quite familiar with some of the bureaucratic procedures if compared with other lower education levels.

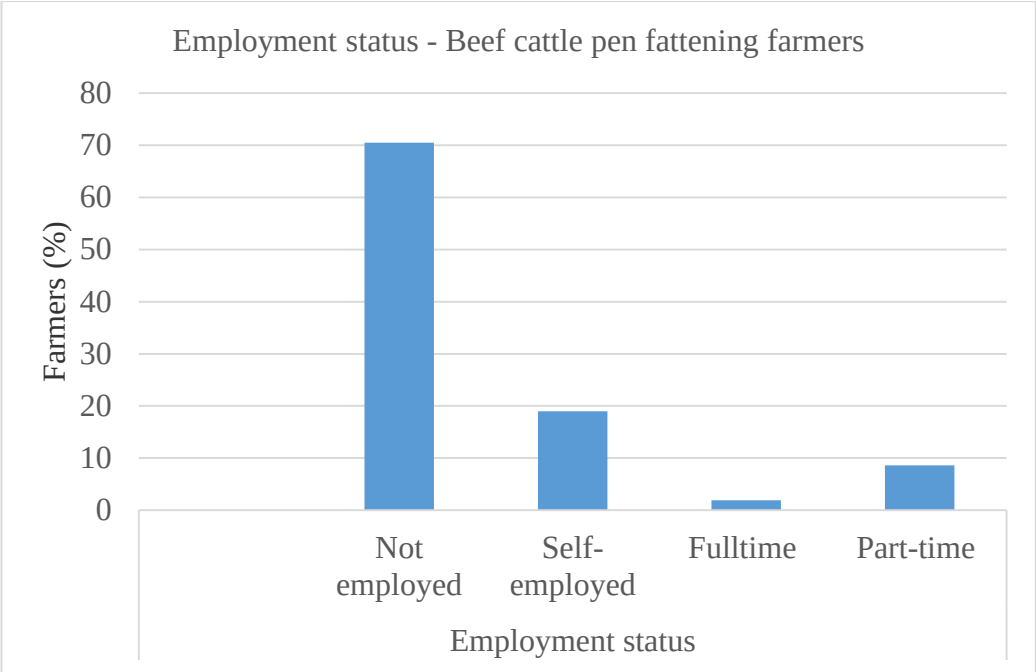

Figure 4.2. Employment status amongst beef cattle farming households

The results indicated that the majority of the farmers (about 70.5 percent) were not employed, while 19 percent and 8.6 percent were self-employed and part-time farmers respectively. Only 1.9 percent were employed on a fulltime basis. This implied that the majority of rural population in the district depends of farming and this also confirms with the rate of unemployment in the country.

4.2.2 Cattle ownership

The average herd size of cattle owned by these households was 7.7 cattle.

Table 4.2. Cattle ownership amongst beef cattle farming households

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Number of cattle owned	105	0	21	816	7.77	4.379
Valid N (listwise)	105					

At least 36% of the households do general cattle rearing. While 34.5% of beef cattle pen-fattening farmers venture into pen-fattening activities. About 29.5% do both mixed – rearing and pen-fattening activities.

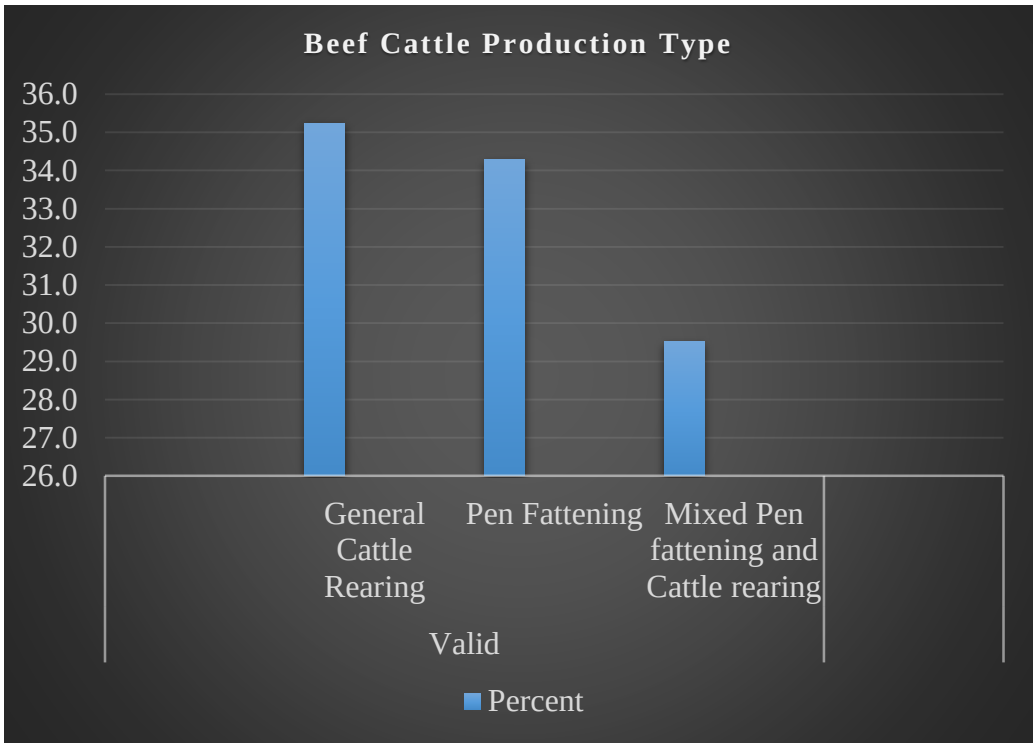

Figure 4.3. Beef cattle production type amongst beef cattle farming households

4.3 Discussion and Interpretation

4.3.1 Access to finance as a construct

Results have indicated from the glance that most famers, constituting about 72.4 percent failed to access agricultural finance, whereas 27.6 percent accessed. Characterizing by gender, more females (31.8%) accessed finance compared to males (26.5%). A larger proportion of those who failed to access agricultural finance were males, with women farmers have more access by proportion. This may be attributed to the fact that women have a good track record of loan repayment than male counterparts. According to Linh, Long, Van Chi, Tam and Lebilly (2019) indicated

that women have higher chances to access agricultural credit than men, when that credit is provided by either the government or Non-Governmental Organizations (NGO).

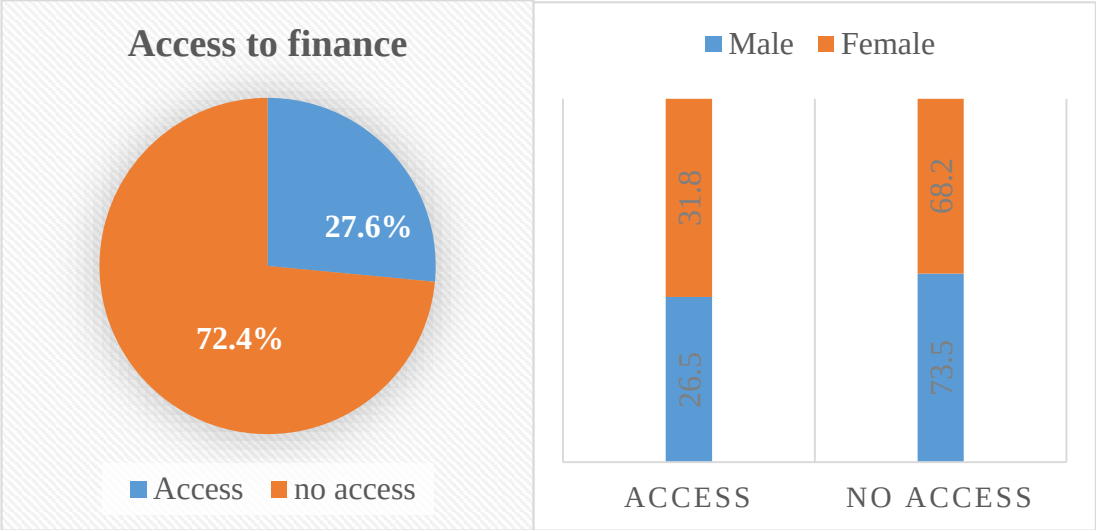

Figure 4.4 Access to finance breakdown by gender.

4.3.2 Results of the Regression Models

To test the appropriateness of the regression model in answering the underlying research question the results indicated that the Chi-square value was statistically significant showing good model fit.

Table 4.3, indicating appropriateness of the model

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	99.256	8	.000
	Block	99.256	8	.000
	Model	99.256	8	.000

The regression model results showed that three independent variables, namely Currency accessed – hard or transfer (CurrencyACC), Collateral requirements (CollateralREQ), and Financial Product or Services offered (ProductServiceACC) had

a statistically significant association with the farmers' access to finance (Table 4.4 - below). Whereas, Distance between farmers and financial institutions (DistanceFI), Interest rate charged on loans (InterestFIN), Sex of house head (SexHH), Cattle owned (CattleOWNED) and Income from beef cattle pen-fattening (INCOMEAnnual) had no significant association with the farmers' access to agricultural finance.

Table 4.4: Results of the Regression Model analysis

Access to agricultural finance (1 =yes, 0 =no)

Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	CurrencyACC	5.721	2.192	6.814	1	.009	305.180
	ProductServiceACC	5.113	1.336	14.648	1	.000	1.006
	DistanceFI	-.013	.018	.519	1	.471	.987
	InterestFIN	-.092	.212	.187	1	.665	.912
	SexHH	.361	1.367	.070	1	.792	1.435
	CattleOWNED	-.106	.202	.273	1	.601	.900
	INCOMEAnnual	.000	.000	.374	1	.541	1.000
	CollateralREQ	3.216	1.848	3.028	1	.082	1.040
	Constant	1.790	4.740	.143	1	.706	5.992

a.Variable(s) entered on step 1: CurrencyACC, ProductServiceACC, DistanceFI, InterestFIN, SexHH, CattleOWNED, INCOMEAnnual, CollateralREQ.

Currency was statistically significant ($p<0.009$), and had a positive relationship with access to agricultural finance. Beef cattle pen-fattening farmers preferred cash rather than bank transfers. This may be due to the fact that, Zimbabwe being a third world economy, unpredictable inflation rates in the local currency often puts the financing institutions at losses in the long run. Thus putting more preference to finance those farmers who apply for loans in hard currency which returns value for the banks.

Collateral requirement was statistically significant ($p<0.082$) and positively related to access to agricultural finance. This implies that farmers in possession of valuable assets recognized by the bank as collateral had a higher likelihood of accessing finance. In other words, farmers with collateral or bankable assets were more likely to be able to pay back borrowed finance in two ways, either in a bid to protect their valuable assets, or in case of failure the assets can service the loan, thus putting the bank on a minimum risk of loss. This agrees with findings from other studies by Atieno (2009) which showed that the total value of farm assets owned is a significant variable that explain participation and access to agricultural finance. This had a strong positive influence on probability of farmers getting agricultural finance. This suggest that lenders providing agricultural finance to farmers in rural communities may need to reconsider other farm assets that can be used as collateral in order to stimulate production in beef cattle pen-fattening activities. The study results are in consistent with the results done to cotton farmers by Duniya and Adinah (2015), were access to credit and collateral yielded a significant and positive relationship.

The results in Table 4.4 above indicated that financial Products or Services (ProductServiceACC), ($p<0.000$) offered by various financial institutions was statistically significant in respective to accessing agricultural finance. There is a positive relationship between utilizing the various services offered by banks and attentiveness towards applying and accessing agricultural finance. This was also in line with other findings which indicated that incentivizing loan facilities can result in higher farmer turnout, (Awunyo- Vitor, 2018). Some of these services were usually provided by the banks for utilization by farmers concurrently as they access and utilize their finance. Coelli and Battese, (1996) and Moses and Adebayo (2007), revealed that the decision by farmers to undertake investment relates to their access to financial

services. If the farmers were discouraged by the mode of operations by financial intermediaries, this can negatively translate to usage of other services. Therefore, improved access to the various services provide incentives for investment.

According to Sebatta et al., (2014), other financial services such as savings and interest rate at borrowing have positive effects on loan access. Personal and voluntary savings positively influenced the amount of loan money a farmer takes out once a decision to take up agricultural loan is made. Hence these farmers grew confidence to take up credit loans knowing that they have the potential to repay back.

The various banks interviewed in the study indicated a range of composite financial services which includes deposits and withdrawals, loans or credit, insurance, banking transfers or e-banking and banking advice. In this case the results indicated that as more farmers utilize these composite financial services offered by the institution the more chances and attentiveness to decide which bank and type of loans they can apply. In terms of insurance, 3.8% of the farmers accessed insurance. This service had low uptake compared to other services amongst beef cattle pen-fattening farmers. Deposits or withdrawals had an uptake percentage of 22.9%. Transfers were utilised by cattle pen-fattening farmers and constituted 23.8%, while savings facility stands at 23.8%. The period was characterised by an increased usage of transfers, due to limited and restricted movement after Covid 19 outbreak. In addition to the above services, farmers who participated in cattle pen-fattening activities received some banking advice (22.9%) from the various agricultural finance institutions that includes Agritex and SMEs departments.

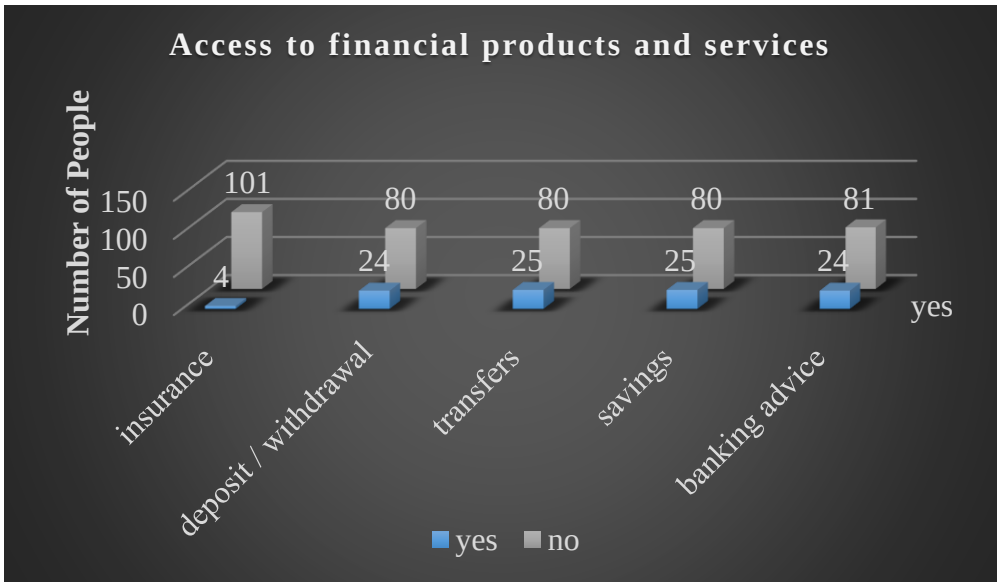

Figure 4.5 Uptake of financial products and services

4.4 Financial institutions structures and influence towards offering agricultural finance

4.4.1 Location of the bank or institution

Provision of agricultural credit by other banks towards pen-fattening was low as noticed by the results in comparative to other agriculture sectors. Key informant interviews done with banks (90%) indicated that their head offices (national offices) were located in Harare. Regional and sub branches were located in Mutare town. Most of the staff (70%) interviewed indicated that the various banks had no other branches in targeted area of study, except in Mutare town. All the primary services were controlled centrally and offered from Mutare town. There was evidence of little support in terms of the supporting or subsidiary branches to offer credit facilities to cattle pen-fattening farmers. Demand and uptake of the services had limited expansion to other areas because farmers had to meet additional costs to access agricultural finance. A few had more than one branch besides the regional branches. However, First Banking Corporation Limited (FBC) through its subsidiary Micro Plan was found

more focused on different farmer groups and their fundable activities. It was revealed that the farmers had several trips to banks especially in the early stages of loan applications to submit physically their loan forms or else corrections were needed on them. In the event of filling in mistakes coming back and forth becomes more frequent which increased cost of transport from the farmers' purse budget. Besides, suppliers of cattle to support beef fattening activities demanded cash, forcing farmers to travel to banks to access hard cash. The banks indicated little progress in terms of full support online application processes. However, once the agricultural loan is secured the farmers will then proceed with electronic transactions.

4.4.2 Knowledge about the client/beef cattle pen-fattening farmers

The banks indicated that they require support from government institutions in terms of farmer groups information., especially those on target for loans or the groups that can be recommended for loans. For example, FBC Loans Officers and Steward Bank Community Development officers worked hand in glove with Agritex and Small to Medium Enterprises Department for reference and loan demand databases. Through Agritex and SMSs Departments, they were able to understand the characteristics of these beef cattle pen-fattening households and proceed to decide to give them or not. The banks kept the databases with information regarding the farmers who accessed loans from their institutions. Presence of this information amongst government departments like SMEs and Agritex indicate space for collaborative and coordinated client performance tracking.

4.4.3 Product design and other composite financial services- right products and services

The study results showed that the financial institutions had both formal and informal agricultural finance in their purse for agricultural support. Commercial banks indicated that they were willing to provide loans that suits the circumstances of the farmers to make them more productive and profitable in their beef cattle pen-fattening activities. FBC through Micro Plan indicated that they used to have a beef cattle pen-fattening product support for beef cattle pen-fattening activities. This has come under special credit allocation for pen-fattening activities supported to FBC bank through Micro Plan under Department for International Development (DFID) - Livelihoods and Food Security Programme (LFSP). The support benefitted a lot of farmers under this scheme, but however this lost its uptake upon withdrawal of the LFSP programme post 2020. However, obsolete operations that included weaknesses in risk assessment, pro-poor and unclear loan application procedures have over the years resulted in underdevelopment and ineffective formal source of agricultural finance. The other banks indicated that cattle pen-fattening enterprises was amongst the value chains considered by the bank to be given credit facility, but they have no loans tailor made for such pen-fattening activities. The technicality of pen-fattening field has been seen as a challenge to have some staff from the bank coming to support. But all other banks indicated that the various services offered by banks were at par and accessed equally among the other services from Mutare town.

In terms of using electronic transactions / electronic banking system, a total of 95.5% of the farmers were using the platforms under pen-fattening transactions. The banks disbursed their funds in respective bank accounts and withdrawals done as either cash or transfer to the supplier of goods required for production. The need for hard cash at

the bank to pay up suppliers of cattle forced respective farmers to travel to banks to withdrew hard cash. It was also noted that the farmers had several trips to banks especially in the early stages of loan applications to submit physically their loan forms, which increased cost of transport from the farmers' side.

4.4.4 Marketing Channels

The banks indicated that they utilised all media platforms to advertise for their various agricultural finance products. Micro Plan advertised specifically for pen-fattening activities through its websites, billboards and various printed materials such as brochures and flyers. The presence of mobile loans officers amongst all the various financial institutions discussed, indicated support to farmers towards beef cattle pen-fattening activities in the district. Little evidence on market research to best understand the clientele – beef cattle pen-fattening farmers. They used networking and coordinated events such as farm field days and agricultural show events or even specialized trainings targeting beef cattle pen-fattening farming groups.

4.4.5 Staff Support Structure

Whenever the banking officials had products to share with farmers, they set some appointments with various groups across the district. For staff complement, usually banks assigned respective officers (banking officials) responsible for various farmer groups to cater for their financial needs. Various farmer groups provided databases with respective names that requires agriculture loans for a specific period. The bank personnel were also responsible for monitoring pen-fattening activities to ensure that borrowed funds are put to right use. So all the banks coordinated their activities from Mutare Town. In terms of qualification, most of the loans officers indicated

background qualification in agriculture and demonstrates a good understanding of such to support various farmer groups.

4.4.6 Lending criteria

Results from key informant discussions results, amongst the factors considered for lending includes: credit history, group membership, functional constitution, collateral and sometimes supporting letter from Agritex or local Village head confirming that the farmers were doing beef cattle pen-fattening activities and requires loans. Mr Madzime, MCFA group chairman has to say this during the interviews:

"We have approached and consulted a considerable number of financial institutions in Mutare to get our beef pen-fattening projects funded upon facing start-up capital constraints. What we discovered was that, financial institutions require organised farmers (registered groups) with a working constitution, this give them assurance and some security to lend us funds. They also demanded collateral of which in our group we were able to combine all our assets (bankable) and this matched with the loan value we agreed to borrow".

Sometimes letters from various market off takers was required as indicated by pen-fattening farmers in the various discussions held during group discussions. Above 65% of the groups indicated that they have approached Agritex, offtakers and local councillors/ Rural District Council authorities for supporting letters to borrow funds. The researcher received responses from Surrey and Montana- Carswell indicating that they have recommended some of the farmer groups to access loans. Stamped letters from respected authorities gives financial institutions some form of assurance to give out loans to farmers. But the recommendations didn't guarantee the repayment process, at the end of the day, the farmers were expected to payback their loans. Bank

account ownership was a requirement as the loans are usually processed into an individual or group bank account. Collateral remained key requirement, but results from FGDs indicated that, it remained a challenge as well to provide as a bank requirement and difficult to fulfil. Various financial institutions stipulated well defined collateral requirements in various forms hence different demands to fulfil the collateral issue. The discussions concluded that most of the administration requirements were similar like passport size photographs, list of group/members and their positions, addresses, national identity cards, proof of residence and sometimes a formal letter written by village head.

4.4.7 Agricultural finance processing

So upon applying for an agricultural finance or loan facility, the bank took time to assess the applications. Banks interviewed during the study indicated that, on average:

"We have to go through an applicant evaluation process to determine if the borrower met the criteria, process and requirements".

Once the criteria and requirements are in order, bank accounts opening process was facilitated to make sure that when the loans were being disbursed they can be accessed over recipient or farmer's bank account. The loans were applied as groups or individual capacities. The banks indicated that, groups loans for pen-fattening activities were ideal and provide form of security compared to individual applicants. So group applications can as well result in disbursement of loans and repayment completed through a group process. The processing period from group discussion results ranges from 14 days up to 30 days, with group requests processed faster compared to individual applicants. But from the results realized out of focus group discussions,

communication about the success of individual farmer to get loans usually takes long or even up to two months.

4.5 Institutional support

4.5.1 The role of central and local government

Smooth provision of agricultural finance for pen-fattening activities was supported by institutional structures and actors playing particular roles and created a need for loans and facilitating transactions between lenders and farmers. For example, the Government of Zimbabwe through its Command Livestock Scheme / CBZ Agro Yield Scheme, was promoting participation of farmers in beef cattle production. The government was the key actor in the development of policy that impacts the sector, facilities and provision of technical services and assistance (Patrick et al., 2010). The farmers indicated that the institutions generally play different roles in making sure that beef cattle pen fatting activities are funded by finance institutions. They provided information about agricultural finance to farmers. In addition, they provided technical knowhow and other services related to production, animal health and marketing.

Groups interviewed through focus group discussions confirmed that the Ministry of Agriculture through the Department of Veterinary Services provided technical assistance on animal health and diseases management which was key for animals during pen-fattening activities. Ninety percent of the groups positively supported the assertion that, through trainings and farm visits all the necessary information required by farmers throughout the pen-fattening cycles was delivered.

Results from focus group discussions with Kunzwanana beef association (Ward 24), Mr Mupombwa, group treasurer indicated that;

"As pen-fattening groups, we have received various support from the Ministry of Agriculture. Agritex and Veterinary Departments provided various technical support even from pen construction, breed selection for pen-fattening activities to feed and feeding requirements and other good agricultural practices. Animal health has been of late a major threat to pen-fattening activities, but with their support the knowledge gap has been closed".

According to focus group discussions, the technical personnel from Ministry of Agriculture helped most of the farmers during application processes, business proposal development and budgeting activities.

Mr Munyonho, a member of Progressive group from Ward 12 explained that:

"Our first application to borrow funds from Micro Plan has been met with back and forth processes. The intervention of Agritex staff who helped us at every stage during application process, business proposal development and pen-fattening production budgeting brought everything into light. The process just got easier and we finally accessed our funds".

The Veterinary Department facilitated livestock movement through processing permits. They also provided technical trainings on cattle breeds, performance and feed management. They supported farmers on inspections activities at the abattoirs, processing and packaging and certify if the respective animal products fits for human consumption. A few banks - Steward Bank and CBZ indicated that they sort references from public extension staff when engaging farmers for agricultural loans.

4.6 Gross Margin Analysis

Gross margin analysis is widely used technique over a period of time for farm budgeting in farm management and planning. According to Mampane (2019), it is an

analytical tool that represents the contribution done by individual farm enterprises to the overhead cost. It is a modest model that is used to appraise financial returns to a production entity (Kahan, 2013). According to Kahan (2013), gross margin shows profitability of an enterprise, it checks its viability to generate income or that its production costs are exceeding the total revenue. Thus it's a useful tool for cash flow planning and to determine the relative profitability of farm enterprises. Sarma, Raha & Jorgensen, (2014) used the gross margin analysis to determine the profitability of beef cattle farmers in Bangladesh. In this study, gross margin analysis was used to determine and analyse the profitability of beef cattle pen-fattening activities in the study area.

4.6.1 Computation of Gross Margin

Input-output data from the different beef cattle pen-fattening farmers in Mutare District were used to compute the gross margin. Gross margin was valued as the output of an individual enterprise (gross value of production), less the variable costs directly attributed to generating the value (Jatto, 2012). These are the direct costs associated with producing goods. Fixed costs were not taken into account.

The mathematical notation for Gross Margin was as follows (Jatto, 2012):

GM = TR - TVC

Where:

GM = Gross Margin

TR = Total Revenue (From livestock sales)

TVC = Total Variable Costs.

The total revenue was derived from livestock sales – total cattle yield /number of cattle sold multiplied by the price of that quantity. This has taken weight gained over the period of the fattening cycle. Variable costs included the following costs, feeds, labor cost, transport costs (to market and to bring in inputs), maintenance (such as costs of maintaining the feeding pens), and animal health costs (such as the costs of medicine). The data necessary for the computation of the gross margin were collected and calculated from individual farmers.

Calculating a Gross Margin for a Beef Cattle Pen-Fattening Enterprise

Table 4.5 Gross margin analysis – Cattle Pen-Fattening

Item	**Quantity**	**Amount**
Total cattle yield	8 Steers	-
Weight gained (average slaughter weight) per steer (52% CDM: cold dressed mass)	212.16 kg	-
Predicted price (Abattoir)	$742.56	-
Gross income	8 x 212.16 kg x $ 3.50	**$ 5 940.48**
Gross income/ cattle	$742.56/ cattle	

Variable costs:

Item	**Detail**	**Cost**	**Total**
Feeder Cattle	8 Steers - fattening stock	at $ 220.63/ cattle	$ 1 765.04
Feed	Beef fattening meal (Exc. Maize)	$ 15.00 per 50kg, $300.00/t	$ 2 592.00
Medicines	Dip (Deadline)	$ 50/ litre	$ 30.00
	Worm remedy (Albex)	$ 40/ litre	$ 24.00
Transport services	Cattle & feed transportation	$25/trip	$ 50.00
Labour	Casual labour	$5.00/ week	$ 60.00
Insurance	Insurance cover		$ 00.00

Grass hay or crop residues	Supplementary feeding	$2.00	$ 320.00
Variable costs (Total)			**$ 4 841.04**
Variable costs/cattle			$ 605.13

Gross margin (gross income – variable costs):

Item	**Amount**
Gross margin	$ 1 099.44
Gross margin/cattle	$137.43

The gross margins were calculated from 105 smallholder livestock farmers who provided required data. The average gross margin for individual farmers fattening 8 cattle per year was $1 099.44 and gross margin per cattle amounting to $137.43.

4.6.2 Meat grading and offtake prices

The study revealed that 59% of beef cattle pen-fattening farmers supplied their final product (cattle) to abattoirs, while the rest (41%) supplied through open market and the auction system. Carcass grading was done at abattoirs with open market doing physical grading. A total of 53.3% of the beef cattle farmers agreed that the final prices charged for supplied cattle was agreed between the two parties following abattoir grading classes.

In terms of offtake prices at the abattoirs, 43.8% indicated fairness in terms of the process coming to final price determination. They were in agreement with the grading and dressing processes. On the other hand, the study revealed that, of those who used the auction system and open market around 55.2% were not satisfied with the final prices of their cattle. Thus these farmers were not consistent with their offtakers at every cycle compared to those who supplied to the abattoirs. Major offtakers like Surrey and Tesla were consistent and were in offtake agreement with respective groups.

4.7 Summary

In summary, the chapter presented the findings of the study. Use of graphs and tables accompanied by descriptions was done in relationship to the respective variables under study. Presentations of the results was done in considerations and comparative to findings done by other researchers. The researcher can attest that participation of women in matters related to agricultural finance is still low and limited compared to their male counterparts, though accessibility is more than men. Beef cattle pen-fattening gross margin indicated that the enterprise has some opportunities to realise incomes for cattle farming households. The next chapter presents conclusions and recommendations to this study, with identified areas for further research.

CHAPTER 5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the research with particular emphasis on the methodologies used to answer the research objectives, key findings and recommendations. Policy recommendations will be laid down towards stimulating demand and promoting access to finance by financial institutions.

5.2 Discussion

Availability and provision of agricultural finance remains one of the major constraints to beef cattle pen-fattening production. A number of factors were analysed that affected access to agricultural finance amongst pen-fattening producers in Mutare District. The results indicated that currency accessed – hard or transfer, collateral requirements and product or services offered by banks were found to determine access to finance by beef cattle farmers for pen-fattening activities. Pen-fattening profitability analysis was run for the beef cattle pen-fattening enterprise and the results indicated that the return per every dollar invested in beef cattle pen-fattening was $1.23 implying the viability of the enterprise amongst farmers. It was found out that the utilisation of composite products and services relates well to attentiveness and decisions to choose favourable financial institutions and the type of loans being offered. Banks and financial institutions – head offices or branches were located in Mutare town, with no other branches in the targeted area. There was evidence, that no future expansion to these areas is expected soon. There was potential likelihood that farmers incur additional costs during travelling to access agricultural finance because of distance between financial institutions and farmers. There was room for financial institutions to tailor-make their products and or services to suit the circumstances of their clients,

with FBC indicating more inclination towards pen-fattening loans to farmers in the district. Institutional support remained key in easing access to finance for beef cattle pen-fattening farmers. A collaborative effort was noted between financial institutions and relevant government line ministries providing support and creating platforms to meet farmers pre and post access to finance period. It was noted that the support provided by various government institution goes a long way in making sure that the beef cattle value chain access enough financial services support to succeed. Some of the financial institutions excelled in their intermediation roles and enabled farmers to do meaningful investments in beef fattening production. All the financial institutions asked farmers to follow set criteria and requirements. They indicated to have rigorous evaluation processes to which farmers have to satisfy to qualify for loans. It was discovered that the processing turn-around time tend to be longer than expected by farmers. It was noted that the prevalence of January diseases in the district was a major threat to this business venture as mass cattle deaths can be recorded within shortest periods.

5.3 Conclusions

The research covered the factors affecting beef cattle farmers' access to agricultural finance and explored the suitability of financial products for pen-fattening activities. Further to that, assessment was done on the structure of financial institutions towards influencing uptake of agricultural finance by beef cattle pen-fattening farmers. The study reviewed that access to agricultural finance was positively influenced by currency accessed (cash or transfers), financial products or services utilization and collateral requirements. The location of banks in towns had negative effects on acquiring loans as it increased the cost of borrowing. The research reviewed that most of the beef cattle pen-fattening activities households were credit constrained (27.6% accessed agricultural

finance) to fund their enterprise during the period. Cattle ownership on average was 7.7 animals per household interviewed, with pen-fattening activities ranked second at 34.5% as production type amongst farmers. The main objective for farmers to venture into beef cattle pen-fattening is to make profit and expand their business. The average net income per each cattle was estimated at USD137.43. The staff structure of financial institutions limited contact between clients and institutions and slowed access to finance. No or little special loan products were tailor-made to beef cattle pen-fattening farmers. Loan processing periods were longer and winding in most of the institutions

The lending criteria and loan processing period by financial institutions are not tailor made to beef cattle pen-fattening farmers. These continue to deter beef cattle pen-fattening farmers towards approaching banks for agricultural credit. Since pen-fattening enterprise is viable in the district, a call is made to financial institutions to come up with a value chain financing model that suits the circumstances of their clients and stimulate demand. This is expected to increase participation of farmers and integration of relevant stakeholders in the financial markets thus becoming efficient and competitive. In addition, farmers need to acquire more bankable assets that can be easily used by financial institutions as collateral to increase their borrowing capacities. The government and financial institutions should come up with sound coordination arrangements that drives enabling environment for implementable policy framework to facilitate and incentivize beef production financing.

5.4 Implications

The research findings of this study will provide insights to the existing body of knowledge as it tackled a combination of factors influencing access to agricultural

finance in a different dimension. It will raise awareness amongst financial institutions to adopt models that promotes participation of their clients in the financial markets.

The researcher believes that, the results of this study will instil significant perception shift towards taking pen-fattening enterprise as a climate smart adaptation strategy in Mutare District. At the same time the government can take up this intervention and prioritise it amongst its climate change risk financing programmes.

On the policy front, the government can coordinate, reorganise and restructure the beef value chain financing model to become more efficient and competitive. This can result in significant changes in flow of finance, product and beneficial information amongst chain actors.

5.5 Recommendations

Government need to strengthen its regulation and supervision on financial institutions. There is need for the central government to restructure its agricultural finance obligation to consider beef value chain financing (restructure) to increase efficiency and competitiveness.

Farmer groups and associations need to consider bankable assets for collateral requirements obligations. This influence positively towards accessing agricultural finance. Besides more financial literacy trainings need to be considered amongst beef cattle farmers to take up insurance products. Cattle proved to be a risky business if proper animal health protocols are not followed.

This is a need to ensure that appropriate and effective intermediation roles are done by financial institutions. Institutions need to have products that suits production cycles of their clients, information dissemination between parties is crucial to avoid negative

externalities about a product or a service so that they can make informed investment decisions.

Better opportunities in the agricultural finance market are created when there is coordination and multi-stakeholder participation towards connecting farmers and financial institutions. This builds trust and decreases potential risks associated with agricultural finance borrowing between actors and lending institutions.

The type of currency either hard or bank transfers matters amongst beef cattle pen-fattening farmers. Financial institutions indicated that withdrawals in hard cash was prioritised first more than any other forms of payment. This forces beef cattle pen-fattening producers to demand cash availability at the bank or other financial institutions which has been difficulty in the period, thus the need for the government to put measures to reduce the effects of hyperinflationary environment and support overall performance of banks such that they can provide financial services efficiently to farmers accordingly.

Though collateral requirements positively associated with access to agricultural finance. Consideration and recommendations to expand other bankable assets or trying group guaranteeing methods to ensure beef cattle farmers are incentivized to participate in the agricultural finance needs implementation. The expansion of the agricultural finance market in relative closer to beef cattle pen-fattening farmers can be an opportunity to tap this growing sector. Taking up insurance services enables cattle farmers to safeguard their investments and be compensated in times of eventualities.

5.6 Suggestions for Further Research

Uptake of insurance remains low amongst beef cattle pen -fattening activities which promotes for further research in regards to its impact on beef cattle pen-fattening activities. There are limitations on how best financial institutions can shift in terms of clientele targeting from ‘big customers’ mentality to rather agricultural sector customers. More research needs to be done in terms of institutional structures/ features and their influence towards access to agricultural finance by beef farming households.

The negative correlation between distance and agricultural finance institutions prompts a need for a research on the impact of expanding the lending network of financial markets to rural clientele. Most of the studies done in regards to access to agricultural finance focused on the farm and famer factors / socio-economic characteristics of farmers (demand side), with little attention on institutional and the operating environment (supply side).

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APPENDICES:

Appendix 1 Data Collection Tool

AFRICA UNIVERSITY

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

DEPARTMENT OF AGRIBUSINESS

Household Survey Data collection tool

Date:		**Enumerator Name:**		
Respondent Details:				
Questionnaire Code:		**Ward Number:**	**Village:**	
Section A	**Household Characteristics –** please provide information about respondent			
A1	Sex of respondent (Circle responses)	1= Male		2= Female
A2	Are you the Household head? (Circle responses)	1= Yes		2 = No
A3	Sex of Household head (Circle responses)	1= Male		2= No
A4	Marital status (Please tick)	Married	Single	Widowed
A5	Age for Household head (Number)	----------		
A6	Family size – (number in family)			
A7	Highest level of education attained by the household head (please tick)	1. Primary level 2. Secondary level 3. College certificate 4. Diploma	5. Bachelors' Degree 6. Master Degree 7. None	
A8	Employment status of household head (please tick)	Full time Part time Self employed Not employed		

A9	Distance to nearest market or business centre (please tick)	1. Less than 10 km 2. Between 11 km and 20 km 3. Between 21 km and 30 km 4. 31 km and above				
Section B	**Asset Ownership – land, livestock, implements/ farm equipment**					
B1	Do you own land?(Please Tick)	1= Yes			2= No	
B2	If yes, what is the size of your land in hectors?	----------				
B3	Tenure status?(Please tick)	1= Own		2= Inherited	3=Renting	
B4	Livestock ownership in the last 12 months					
	Livestock type	Number owned	Number sold during the year	Income realised from sales	Purpose used from the income realised – **(see codes below and indicate the codes below)**	
	Cows					
	Bulls					
	Oxen					
	Heifer					
	Calf					
	Goats					
	Sheep					
	Chickens					
	Donkeys					
	For purposes used from income realised: 1. Purchasing input 2. Supporting pen-fattening infrastructure or rehabilitation. 3. Loan repayment. 4. Purchasing live animals 5. Others – specify					
B5	How many of each of the following assets - tools and implements you keep are in good working conditions? (Indicate number and value)					
	Asset	Number	Assets value ($US)	Asset	Number	Assets Value ($US)

	Ox drawn plough			Wheel barrow		
	Ox drawn harrow			Scotch cart		
	Ox drawn cultivator			Tractor		
	Hand hoes			Sprayer		
	Cattle handling facilities			Pen feeding pens		
	Motorbike			Water pump		
Section C	**Cattle pen-fattening production system and business profitability**					
C1	Production type. (Please circle)	1= General cattle rearing	2= Pen-fattening		3= Mixed Pen-fattening and Cattle rearing	
C2	Experience in cattle pen-fattening. (Please circle)	1= less than two years	2= Above two years and less than 5		3= More than 5 years	
C3	Are you a member of a pen-fattening farmer group? (Please circle)		1=Yes		2= No	
C4	Number of pen-fattening cycles per year:				Number……	
C5	Number of animals fattened per cycle:				Number …….	
	Business performance and marketing in the fiscal year – please record the following					
C6	Total annual sales of pen fattened cattle sales:				$US……	
C7	Total costs incurred in the business of pen fattened cattle production:				$US……..	
C8						

	What was your net profit in the fiscal year?		$US……..
C9	What is your major markets or off takers? Provide list.		…… …… …… ……
C10	Do you do direct sales to the abattoir		1 = Yes 2= No
C11	Who determines the prices?		Please tick a. Sellers b. Buyers c. Both
C12	Are the prices favourable		1 = Yes 2= No
C13	Any debts incurred? 1. Yes …….. No……		If yes, total debts incurred in the year $US……..
C14	What were/are your major cost drivers (Please tick)	1. Feeder cattle 2. Feeds 3. Cattle pens	4. Labour 5. Transport 6. Chemicals 7. Other (specify)……..
	Types of feeds used		
C15	Types of feed given to cattle (please tick)	1.Local feed formulation (making own feed)	2. Commercial feeds 3. Mixed – commercial or local feed formulation
C16	Cost of commercial feeds kg/head/cycle	Kgs used per cycle ……..... .	Cost per cycle per head …… …..
C17	Cost of local feeds (own feeds) - kgs/head/cycle	Kgs used per cycle ……..... .	Cost per cycle per head …… …..
C18	What are the constraints, including in the list, if any, in cattle pen-fattening activities? (Please tick the top 5) 1. Input costs – feeds, cattle, drugs etc. 2. Labour 3. Capital, lack of access to finances 4. Unsuitable cattle breeds		

	5. Market access 6. Natural hazards – drought 7. Lack of technical knowledge, training and support 8. Low off take prices 9. Others – specify ……		
C19	What are some of the solutions to overcome the challenges highlighted above? (List - corresponding responses with the above)	1._____ 2._____ 3._____ 4._____	5._____ 6._____ 7._____ 8._____
Section D	**Access to agricultural financial services**		
D1	Do you own a bank account as a group?	1 = yes	2 = no
D2	Did you access any form of financing or financial services in the past 12 months for pen-fattening? (Please tick)	1= yes	2= no
D3	If yes, form of financial service/s accessed (Please tick multiple responses apply)		**Please tick according to use and need** 1. Credit or loan 2. Insurance 3. Deposits/ withdrawals 4. Transfers 5. Savings 6. Banking advice
D4	Sources were finance or service was accessed (Please tick - you can tick more than one).	1. Commercial banks 2. Micro finance	4. Credit Cooperatives 5. Other--- specify

		3. Group savings	
D5	What was the purpose of the loan, (if among the list or add) if accessed? (Please tick – top 4 priorities)	**Purpose** 1.Construction of cattle pen-fattening equipment or infrastructure 2.Paying start up cattle herd for induction into pens 3.Pens rehabilitation 4.Feeds and drugs procurement 5.Debt payments 6.Labour payments 7.Others_____ _____ _____	**Percent of the total loan used** **……..** **……** **……** **……** **……** **……** **……** **Total 100%**
D6	What were the requirements to apply for loans? **(Please tick the top most 5 factors)** 1. Cattle pen-fattening business proposal 2. Cattle pen-fattening budget and business net worthy 3. Collateral requirements 4. Bank account possession	5. Member personal details such as ID, employment details 6. Constitution (for groups), meeting minutes 7. Recommendation or referral letter from Government departments 8. Others – specify……..	
D7	If no (to D1 above), what factors prevented you from applying or accessing loans? (Please tick top 5 most limiting factors) 1. Did not apply – no need I do have sufficient capital 2. Did not apply - lacked information about the application procedure 3. Did not apply - afraid of defaulting after failing to pay back 4. Did not apply because of no collateral 5. Wanted to borrow but the process was complicated 6. Wanted to borrow but failed to get support (banks, extension and research agencies) 7. Wanted to borrow but feared the high interest rates 8. Applied but not successful, failed to complete the processes		

	. 9. Applied but was rejected . 10. Others – specify……..	
D8	Did you manage to repay the loans received? (Please tick) 1= Yes 2= No	
	If you fail to pay loans back, Why? What were the challenges? – Please list below 1._____- 2._____ 3._____ 4._____	
D9	What are the constraints in accessing financial services? (Rate 1 – 5 according to most to least constraint) **Constraints** Long distances to access service providers High interest rates and administration fees Lending requirements and demands are difficult to meet Application procedure complicated Payback/ repayment period not suitable to our business cycle Economic instability Loan sizes does not satisfy us Loan processing time to long and winding Lack of knowledge about loans and application processes Disagreements in type of currency offered Collateral issues Others – specify……..	**Rank (1 – 5) –** most constraint to least constraint ……. **…….** **…….** **…….** **…….** **…….** **…….** **…….** **…….** **…….** **…….**
D10	How far in terms of distance to the nearest financial institution?.....km	

D11	What was the interest charged for loans or agriculture credit you accessed in the fiscal year?.....%		
D12	What was the payback period for loans accessed ……months		
D13	How do you rank the following in accessing finance? **Factor** Quality of products or services offered by financial institution Closer location or proximity of financial institution Quick loan processing – application and disbursement Low interest charged Flexible payment period Flexible collateral security Variety of products offered by the same institution	**Rank according to importance (1 – 5)** least – most important …… …… …… …… ……. ……. …….	
Section E	**Institutional structure and support**		
E1	Do you participate in farmer groups (Please tick)	1= Yes	2= No
E2	Benefits of a farmer group in regards to access agricultural financial services. (Please tick - more responses can apply)	1. Combined collateral security 2. Access to technologies 3. Easy access to credit and other service support 4. Easy access to support from government and private sector 5. Easy access to markets 6. Share knowledge and information	
E3	Are you getting any technical support from government institutions towards cattle pen-fattening and access to finance? (Tick)	1= Yes 2= No If yes from whom……..	
E4	Are you getting any technical support from financial institutions towards pen-fattening? (Tick)	1=yes 2=no If yes from whom……..	
E5	What financial access support do you get from financial institutions towards accessing agriculture loans and services? (List responses)	1._____ 2._____ 3_____ 4_____	

E6	Do financial institutions offer education on loan requirements, access and other services after accessing loans? (Tick)	1= Yes 2= No If yes, what type of service list 1_____ 2_____
E7	How these institutions (groups, government, and private sector) have affected the demand for loans in cattle pen-fattening business? (List)	Reasons 1._____ 2._____ 3._____ 4._____
E7	Do your banks allow access to mobile banking platforms? (Tick)	1= Yes 2= No

Appendix 2 Data Collection Tool 2

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DEPARTMENT OF AGRIBUSINESS

Focus Group Discussions Questions guide

The discussions will be guided by the following questions:

Demand for agriculture finance, products and services offered to beef cattle pen-fattening activities

1) Do beef cattle farmers have sufficient capital requirements to do pen-fattening activities? What are the options to seek sufficient capital requirements?
2) What are the formal sources of agricultural finance?
a) What are the informal sources of agricultural finance?
b) Do the sources have loans set for beef cattle pen-fattening activities?
3) Which products do you prefer to apply from financial institutions?
a) How are they suitable to your income generating activities?
b) Any areas you think they need improvements – sources of loans and type of products/ services offered? What terms do you prefer to request?

Challenges or constraints to access agricultural finance

1) What are the constraints faced by beef cattle producers in trying to access credit to do pen-fattening activities?
2) Any reasons why borrowing proposals are normally rejected?
3) What is the cost of acquiring loans (interests)? What is the payback period?
4) What are the incentives or advantages of agricultural finance?
5) What other benefit are you getting from financial institutions?
6) What motivates you to apply for agricultural loans?

Institutional support and policy issues

1) What are the institutions or stakeholders involved in lending and borrowing activities in the district?
a) What are some of their roles?
2) What is the criteria used by lending institutions to select borrowers? What are your thoughts regarding the selection criteria?
3) What kind of government support exists to support your enterprises in accessing finance? What support is being provided by other institutions towards accessing to finance?

Appendix 3 Data Collection Tool 3

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DEPARTMENT OF AGRIBUSINESS

Key informant Data collection tool: Banks and Microfinance Institutions

Section A. Institutional Details			
Bank/ Institution Name			
Bank/ Institution location			
Bank type or sector (Tick)	Commercial Bank/ Regional Bank/ Branch/Unit/ Supporting branch or Specify …….		
What are the products and services you provide as an institution? (Tick – multiple responses can apply)		1. Savings 2. Credit or loan 3. Insurance 4.Transfers	
How many braches do you have in Mutare District and which areas?	No. of Branches 1…….. 2……. 3…….	Location/s: ……. ……. …….	Distance from town ……km ……....km ……km
Section B. Providing agricultural finance and financial requirements			
Which agricultural value chains are targeted by your loans? (List)		1…….. 2…… 3…… 4…… 5…….	
Any loans or services specifically for beef cattle pen-fattening activities? (Tick)		1= yes, 2= no. Specify ……..	
What are your lending	1.Credit history 2.Collateral 3.Bank account	4.Group member 5.Group constitution 6.Supporting letter – Agritex/ SMEs	

requirements? (Please Tick)	…….. …….. ……..	7. Other specify …… ……..
What lending requirements do most farmers find some challenges in fulfilling? (List as many as possible)	1…… 2…… 3…… 4…… 5…… 6……	Any reason for failing to meet the requirement? 1…… 2……. 3……... 4…….
List any other challenges faced by farmers in accessing your products and services.	1. 2. 3.	
Section C- Policy issues and recommendations		
How is the government supporting your activities towards offering services to business enterprises? List	…… …… …… ……	
How do you prioritise loan disbursement according to sector? Specifically, to beef cattle production?	…… …… …… ……	

How do you balance between security and risk of loans disbursed to farmers? Any measures the government institutions support you on this one?	…… …… …… ……
How do you advise beef cattle pen-fattening farmers around doing business in a volatile multicurrency environment? How do you merry your model and form of loan disbursement in protecting beef cattle pen-fattening businesses?	…… …… …… ……. …… …….. …… ……..

Appendix 4 Data Collection Tool 4

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Key informant Data collection tool: Government Institutions

Name of Institution…….

Position…….....

District ……
Date…….

A1. What are the measures in place being spearheaded by the government in support of beef cattle production? The following fields can guide the responses –

a. Cattle breeding and breeds availability……

b. Feed supply and access……

c. Animal health, animal movement……

d. Marketing…….

e. Financial support, tax compliance enforcement……..

f. Public health, beef processing, inspections……..

g. Subsidised schemes or interventions……

Any other activities? (specify)

_____
_____

_____
_____

_____
_____

A2. Any challenges faced in implementing the above measures and recommendations

Intervention	**Challenges**	**Recommendations**
a. Cattle breeding and breeds availability		
b. Feed supply and access		
c. Animal health, animal movement		
d. Marketing		
e. Financial support		
f. Public health, beef processing, inspections		
g. Subsidised schemes or interventions		
Any other?		

B.1. How is the government supporting beef cattle farmers in terms of improving access to finance for beef cattle fatteners?

a. Funding - provision of finance, financial regulation or monitoring……
……

b. Easy access to loans or credit……
……..

c. Technical support – training, policy issues……
……...

d. National agriculture farmers support schemes
……
……...

e. Easy of doing business or simplifying processes and procedures……
……...

Any other? (specify)

_____
_____

_____
_____

_____
_____

B2. Any challenges faced in implementing the above measures

Intervention	**Challenges**	**Recommendations**
a. Funding - financial regulation or monitoring		
b. Finance provision - access to loans or credit		
c. Technical support – training, policy issues		

d. National agriculture farmers support schemes		
e. Easy of doing business or simplifying processes and procedures		
Any other?		

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AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE (AUREC)

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Ref: AU1924/21 3 March, 2021

Prosper Zimwaraka
C/O CHANS
Africa University
Box 1320
Mutare

RE: **FACTORS AFFECTING BEEF FARMERS' ACCESS TO AGRICULTURAL FINANCE FOR BEEF CATTLE PEN FATTENING ACTIVITIES IN MUTARE DISTRICT, ZIMBABWE**

Thank you for the above titled proposal that you submitted to the Africa University Research Ethics Committee for review. Please be advised that AUREC has reviewed and approved your application to conduct the above research.

The approval is based on the following.

a) Research proposal
b) Data collection instruments
c) Informed consent guide

- **APPROVAL NUMBER** AUREC1924/21
  This number should be used on all correspondences, consent forms, and appropriate documents.
- **AUREC MEETING DATE** NA
- **APPROVAL DATE** March 3, 2021
- **EXPIRATION DATE** March 3, 2022
- **TYPE OF MEETING** Expedited
  After the expiration date this research may only continue upon renewal. For purposes of renewal, a progress report on a standard AUREC form should be submitted a month before expiration date.
- **SERIOUS ADVERSE EVENTS** All serious problems having to do with subject safety must be reported to AUREC within 3 working days on standard AUREC form.
- **MODIFICATIONS** Prior AUREC approval is required before implementing any changes in the proposal (including changes in the consent documents)
- **TERMINATION OF STUDY** Upon termination of the study a report has to be submitted to AUREC.

AFRICA UNIVERSITY
RESEARCH ETHICS COMMITTEE (AUREC)
APPROVED
P.O. BOX 1320, MUTARE, ZIMBABWE

Yours Faithfully

MARY CHINZOU – A/AUREC ADMINISTRATORFOR CHAIRPERSON, AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE

Urkund Antiplagiarism Report

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Sources included in the report

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