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An Investigation on the Influence of Socio-Economic Factors on the Utilization of Livestock Extension Services in Zimbabwe

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RELEASE FORM

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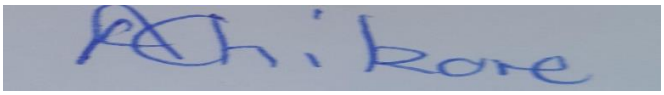
DECLARATION

I Advance Chikore do hereby declare that this research project is my own work and additional sources have been properly and fully acknowledged by means of references. This dissertation has not been submitted before for any degree or examination in any other University. I am responsible for this research and its articulation alone. In no ways do any of the mentioned persons in the acknowledgement bear any direct responsibility for this work.

Students' Signature 

Date **14/10/2024**

DEDICATION

This project is dedicated to my spouse (Priscah Makuvire), all my children (Palmar, Praise, Purity and Makanaka) and my academic friend, Bunhu Terence to whom I am chiefly indebted for their love and guidance.

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Abstract

This study investigated the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe. Livestock extension services play a crucial role in disseminating information, technology, and best practices to livestock farmers, thereby enhancing productivity and promoting sustainable agriculture. However, the utilization of these services is influenced by various socioeconomic factors, which needed to be better understood for effective service delivery. A mixed-methods approach was adopted, combining quantitative surveys and qualitative interviews. A multi-stage sampling method to ensure a representative sample of farmers in Zaka, Zimbabwe. The primary data collected included information on socioeconomic characteristics, such as income, education level, access to credit, and landholding size, as well as utilization patterns of livestock extension services. Quantitative data was analysed using descriptive statistics and regression analysis to identify the significant socioeconomic factors influencing the utilization of livestock extension services. The results indicated that 75% were males whilst 25% were females, distance to extension offices insufficient availability of services in my area, access to credit, and landholding size were significant values of service utilization. Additionally, qualitative data from interviews provided insights into the farmers' perceptions, attitudes, and experiences regarding the extension services. Based on the findings, several recommendations can be made. Firstly, policymakers should prioritize efforts to improve income levels and access to credit among livestock farmers, as these factors positively influence the utilization of extension services. Secondly, educational programs should be developed to enhance farmers' knowledge and skills, enabling them to fully benefit from the available extension services. Additionally, targeted interventions should be designed to address the specific needs and challenges faced by small-scale farmers, who may have limited resources and access to extension services. The findings of this research contribute to the existing literature on agricultural extension services and provide valuable insights for policymakers, extension practitioners, and development organizations in Zimbabwe.

Keywords: Extension services, socioeconomic factors, Utilization, Sustainable agriculture

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Chapter 1

1.0 Introduction

Livestock farming in Zimbabwe serves as a fundamental pillar of the country's agricultural sector, contributing extensively to food security, income generation, and overall economic development. The livestock sector encompasses various sub-sectors, including cattle, goats, sheep, and poultry, providing diverse livelihood opportunities for rural communities.

To ensure the sustainable growth and productivity of the livestock sector, it is essential to facilitate access to and effective utilization of livestock extension services. Livestock extension services play a critical role in disseminating vital knowledge, skills, and technologies to farmers, empowering them to improve their livestock production, management practices, and overall profitability. These services offer guidance on various aspects, such as animal health, nutrition, breeding, housing, and marketing, enabling farmers to make informed decisions and adopt best practices (Chikono, 2020).

However, the utilization of livestock extension services is influenced by a wide range of socioeconomic factors that need to be comprehensively understood and addressed. Socioeconomic factors encompass various dimensions, including income levels, education, and access to resources, household characteristics, cultural practices, and socio-economic factors. These factors can either enable or hinder farmers' engagement with extension services (Chidoko 2019).

Understanding the influence of socioeconomic factors on the utilization of livestock extension services is crucial for policymakers, extension providers, and researchers. By examining these factors, stakeholders can gain insights into the barriers and challenges that farmers face in accessing and effectively utilizing livestock extension services. Additionally, identifying the factors that promote utilization can help highlight successful strategies and interventions that can be scaled up to enhance service delivery and improve livestock productivity and rural livelihoods (Adugna et al., 2018.

This study aims to investigate the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe. Through a comprehensive examination of these factors, the study seeks to contribute to the development of evidence-based policies, interventions, and strategies that will enhance the utilization and impact of livestock extension services. By addressing the identified barriers and harnessing the factors that promote utilization, stakeholders can work towards improving livestock productivity, sustainable

agricultural practices, and the overall well-being of rural communities in Zimbabwe (Adu-Gyamfi et al., 2019; Adugna et al., 2018).

1.1 Problem Statement

Despite the significance of livestock in Zimbabwe's agricultural sector, there is limited understanding of the socioeconomic factors that influence the utilization of livestock extension services. This knowledge gap hinders efforts to enhance livestock productivity, bridge knowledge disparities, promote equity and social inclusion, and allocate resources effectively. The absence of comprehensive research on this topic limits the development of targeted interventions and evidence-based policymaking in livestock extension services. Therefore, there is a pressing need to investigate the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe to address these critical gaps and contribute to sustainable agricultural development.

1.2. Research Objectives

1.2.1 Main objective

The primary objective of this study is to investigate the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe.

1.2.2 Specific objectives

1. To identify the socioeconomic factors that affect the utilization of livestock extension services.

2. To assess the extent of utilization of livestock extension services among different social and economic groups.

3. To explore the challenges and barriers faced by farmers in accessing and utilizing livestock extension services.

1.3 Research Questions

1. What are the socioeconomic factors that significantly affect the utilization of livestock extension services in Zimbabwe?

2. To what extent do different social and economic groups in Zimbabwe utilize livestock extension services?

3. What are the main challenges and barriers faced by farmers in accessing and utilizing livestock extension services?

1.4 Research hypotheses

H1. There is a significant association between socioeconomic factors and the utilization of livestock extension services in Zimbabwe.

H0. The extent of utilization of livestock extension services varies among different social and economic groups in Zimbabwe.

1.5 Significance of the Study

This study on investigating the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe is of paramount importance. Livestock plays a vital role in the country's agricultural sector, and maximizing its productivity is crucial for economic growth and food security. By understanding the socioeconomic factors that affect the utilization of extension services, this study can identify barriers and facilitators that impact farmers' access to knowledge, resources, and technical skills necessary for improving livestock management practices. Furthermore, it can bridge the knowledge gap by identifying disparities among farmers from different socioeconomic backgrounds, enabling the development of tailored extension programs and materials. By promoting equity and social inclusion, informing evidence-based policymaking, and strengthening the livestock extension systems, this study holds the potential to contribute significantly to sustainable agricultural development and the overall well-being of farmers in Zimbabwe.

1.6 Research Gap

Despite the importance of livestock extension services in Zimbabwe's agricultural sector, there is a significant research gap regarding the influence of socioeconomic factors on the utilization of these services. Limited studies have specifically examined the socioeconomic factors that affect farmers' access to and utilization of livestock extension services. Additionally, there is a lack of research assessing the extent of utilization among different social and economic groups, thereby hindering the identification of disparities and targeted interventions. Furthermore, there is a dearth of research exploring the challenges and barriers faced by farmers in accessing and utilizing these services, which limits the development of effective strategies. To address these gaps, further research is needed to comprehensively understand the influence of socioeconomic factors on the utilization of livestock extension services and propose evidence-based recommendations for improvement.

1.7 Scope of the Study

The scope of this study on investigating the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe is focused within specific parameters. Firstly, the geographic scope of the study is limited to Zimbabwe, recognizing the unique socioeconomic conditions and agricultural landscape within the country. By focusing on Zimbabwe, the study can provide insights that are relevant to the local context and contribute to the development of targeted interventions.

The participants of the study will primarily consist of farmers engaged in livestock production who have either accessed or have the potential to access livestock extension services in Zimbabwe. The selection of participants will be done across different regions of the country to ensure a diverse and representative sample. By including farmers from various regions, the study can capture the perspectives and experiences of different communities and account for regional variations.

The study will examine a range of socioeconomic factors that can potentially influence the utilization of livestock extension services. These factors may include education level, income, and access to information, gender, and land ownership. By considering these factors, the study will provide a comprehensive understanding of how different socioeconomic circumstances can impact farmers' ability to access and utilize livestock extension services effectively.

The focus of the study will be on the utilization of livestock extension services provided by government agencies, non-governmental organizations, and other relevant stakeholders. These services may encompass areas such as animal health, breeding, nutrition, and overall livestock management practices. By focusing on these specific services, the study can analyze the factors influencing their utilization and provide insights into improving their effectiveness and reach.

The study will also explore the challenges and barriers faced by farmers in accessing and utilizing livestock extension services. These may include infrastructure limitations, financial constraints, lack of awareness, and gender disparities. By identifying these challenges and barriers, the study can highlight areas that require attention and develop recommendations to address them effectively.

Based on the findings, the study will propose recommendations to improve the utilization of livestock extension services in Zimbabwe. These recommendations may include policy interventions, capacity building for extension workers, targeted extension programs, and strategies to address socioeconomic disparities and promote inclusivity. The aim is to provide

actionable insights that can inform decision-making and contribute to the enhancement of livestock extension services in Zimbabwe.

1.8 Limitations of the Study

This study on the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe has several limitations that should be acknowledged. Firstly, the generalizability of the findings may be limited. The study focuses specifically on Zimbabwe and its unique socioeconomic and agricultural conditions. Therefore, caution should be exercised when applying the results to other geographical contexts or countries with different contexts.

Secondly, the sample size and selection process may introduce biases. The findings of this study are based on a specific sample of farmers engaged in livestock production in Zimbabwe. The sample size may be limited, and the selection process may not fully represent the diverse range of experiences and perspectives within the population. This may affect the generalizability and representativeness of the findings.

Thirdly, the study relies on self-reported data provided by the participants. This introduces the possibility of recall bias or social desirability bias. Participants may not accurately recall information or may provide answers that they perceive as more favourable. This bias may affect the accuracy and reliability of the data collected, influencing the study's findings and conclusions.

Additionally, the utilization of livestock extension services can be influenced by various external factors beyond the scope of this study. Factors such as government policies, economic conditions, and climate change can play a significant role. These external factors were not explicitly included or controlled for in this study, which may limit the understanding of the full range of influences on the utilization of livestock extension services.

Furthermore, while the study focuses on socioeconomic factors, there may be other important variables that were not considered. Factors such as cultural norms, geographical location, and market dynamics can also influence the utilization of livestock extension services. The exclusion of these factors may limit the comprehensiveness of the study's findings and recommendations.

Lastly, the study is conducted within a specific time frame, which may impose certain time constraints. This may limit the depth of data collection and analysis, potentially missing out on

long-term trends or changes over time. Longitudinal studies or studies conducted over an extended period would provide a more comprehensive understanding of the factors influencing the utilization of livestock extension services.

Despite these limitations, this study contributes to the existing knowledge on the topic and provides valuable insights. It serves as a foundation for further research and can guide future studies to address the limitations and expand the understanding of the utilization of livestock extension services in Zimbabwe and beyond.

1.9 Chapter Summary

In conclusion, this chapter has provided an overview of the study on investigating the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe. The research questions, research gap, and scope of the study have been defined. The study aims to fill the research gap by identifying the socioeconomic factors affecting utilization, assessing differences among social and economic groups, exploring challenges and barriers, and proposing recommendations for improvement. The subsequent chapters will delve into the literature review, research methodology, data analysis, and discussion of findings. The study aims to provide valuable insights and recommendations to enhance the utilization of livestock extension services in Zimbabwe.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The literature review chapter is a critical component of this study as it serves to provide a comprehensive overview of the existing body of knowledge and research pertaining to the utilization of livestock extension services. This chapter plays a fundamental role by critically examining and synthesizing relevant scholarly sources, enabling the identification of gaps, inconsistencies, and areas that warrant further investigation. By exploring the current understanding, research findings, and theoretical frameworks related to the topic, the literature review chapter aims to establish a solid foundation for the study, ensuring a thorough understanding of the subject matter and guiding the subsequent research process.

2.1.1 Overview of the Concept of Livestock Extension Services

Livestock extension services play a vital role in supporting livestock farmers by providing them with knowledge, skills, and resources necessary for efficient livestock management. This section provides an overview of the concept of livestock extension services, highlighting its objectives, activities, and importance in agricultural development.

Livestock extension services are designed to bridge the gap between scientific research and practical application in the livestock sector (FAO, 2020). They aim to disseminate up-to-date and relevant information to farmers, enabling them to adopt improved livestock production practices and technologies (Amaza et al., 2019; Swanson et al., 2017). These services encompass a wide range of activities, including training programs, demonstrations, workshops, farm visits, and provision of advisory services (Matanda et al., 2022; Moges et al., 2018).

The primary objective of livestock extension services is to enhance livestock productivity, profitability, and sustainability (Mekonnen et al., 2021; Nkonya et al., 2019). Through the transfer of knowledge and skills, extension services assist farmers in making informed decisions related to animal health, nutrition, breeding, housing, and disease management (Birhanu et al., 2020; Sanginga et al., 2019). By promoting best practices and innovative techniques, livestock extension services contribute to improved animal welfare and the overall economic development of the livestock sector (Akpalu et al., 2018; Tadesse et al., 2017).

The importance of livestock extension services cannot be overstated. They play a crucial role in empowering farmers, particularly smallholders, by equipping them with the necessary

information and skills to optimize their livestock production (Asfaw et al., 2020; Mekonnen et al., 2021). Livestock extension services also facilitate the transfer of technology, encourage the adoption of sustainable farming practices, and promote resilience in the face of challenges such as climate change and market fluctuations (Akpalu et al., 2018; FAO, 2020; Sanginga et al., 2019).

2.1.2 Historical Development and Evolution of Livestock Extension Services

Livestock extension services have a rich history that spans several decades and has evolved in response to changing agricultural landscapes and the needs of livestock farmers. This section provides a literature review on the historical development and evolution of livestock extension services, highlighting their role and importance in enhancing agricultural productivity.

The origins of livestock extension services can be traced back to the early 20th century when agricultural extension systems began to emerge worldwide (Swanson et al., 2017). Initially, the focus of extension services was primarily on crop production, but with the recognition of the significant contribution of livestock to agricultural economies, specific livestock extension services gradually developed (Matanda et al., 2022).

Over time, livestock extension services have evolved from simple information dissemination to more comprehensive and participatory approaches. In the early stages, extension services primarily aimed to transfer scientific knowledge and technologies to farmers through demonstrations and lectures (FAO, 2020). However, with the realization that farmers' knowledge and experiences are valuable, the approach shifted towards participatory and farmer-centered methodologies (Swanson et al., 2017). This participatory approach recognizes the importance of involving farmers in decision-making processes and tailoring extension services to their specific needs and contexts (Amaza et al., 2019).

The role of livestock extension services in enhancing agricultural productivity has been widely acknowledged. Livestock extension services provide farmers with up-to-date information on best practices and innovative technologies related to animal husbandry, nutrition, breeding, disease control, and management (Birhanu et al., 2020; Sanginga et al., 2019). By equipping farmers with knowledge and skills, livestock extension services contribute to improved livestock health, productivity, and profitability (Akpalu et al., 2018; Tadesse et al., 2017).

Furthermore, livestock extension services play a crucial role in promoting sustainable agriculture. They provide guidance on environmentally friendly practices, such as sustainable grazing management, waste management, and conservation of genetic resources (FAO, 2020). Livestock extension services also contribute to the adoption of climate-smart practices, helping farmers mitigate and adapt to the impacts of climate change (Akpalu et al., 2018; Sanginga et al., 2019).

2.1.3 Overview of the Livestock Sector in Zimbabwe

The livestock sector plays a significant role in Zimbabwe's agricultural economy, providing livelihoods for rural communities and contributing to food security and export earnings. Cattle, goats, sheep, and poultry are the main livestock species reared in the country. The sector contributes to meat production, milk, eggs, and other by-products, as well as providing draft power for agricultural activities.

2.1.3.2 Historical Context and Development of Livestock Extension Services in Zimbabwe

Zimbabwe has a history of well-established livestock extension services that have evolved over time. During the colonial era, extension services mainly focused on providing technical assistance to large-scale commercial farmers. However, after independence in 1980, the government recognized the importance of inclusive agricultural development and initiated efforts to extend services to small-scale and communal farmers.

The Department of Livestock and Veterinary Services (DLVS) is the main government agency responsible for livestock extension services in Zimbabwe. DLVS employs extension officers who provide training, advice, and support to farmers on livestock production and management practices. Extension services have been instrumental in disseminating information on animal health, breeding, nutrition, and disease control to improve livestock productivity and farmers' livelihoods.

2.1.3.3 Challenges and Barriers to the Utilization of Livestock Extension Services in Zimbabwe

The effective utilization of livestock extension services in Zimbabwe faces several challenges and barriers. One significant obstacle is limited access, particularly for remote and marginalized communities. Extension officers often have insufficient presence in rural areas, resulting in reduced outreach to farmers who are in most need of assistance. Additionally, inadequate infrastructure, such as poorly developed roads and limited communication networks, further exacerbates the problem of access.

Inadequate resources pose another challenge to livestock extension services. Insufficient funding and resources allocated to the livestock sector hinder the effectiveness of extension services. The lack of financial resources for training, capacity building, and the provision of necessary equipment and materials limits the extension officers' ability to deliver up-to-date knowledge and transfer appropriate technologies to farmers.

Policy and institutional constraints also impede the efficient delivery of livestock extension services in Zimbabwe. Inconsistent policies and weak institutional frameworks create obstacles in implementing effective extension programs. The poor coordination among different stakeholders and limited collaboration between government agencies and non-governmental organizations (NGOs) hinder the implementation of extension services and the dissemination of relevant information to farmers.

Disease outbreaks and climate change present additional challenges to livestock production and extension services in Zimbabwe. Livestock farmers frequently face outbreaks of diseases such as foot-and-mouth disease, tick-borne diseases, and Newcastle disease in poultry. These outbreaks demand timely and effective extension services to mitigate their impact on livestock production. Furthermore, climate change-related challenges, including droughts and unpredictable weather patterns, affect livestock farming and necessitate adaptive extension services.

Socioeconomic factors contribute to the barriers in utilizing livestock extension services. Limited access to credit, markets, and resources hampers farmers' ability to invest in livestock production and effectively engage with extension services. Additionally, low levels of education and limited awareness among farmers about the benefits of extension services hinder their utilization.

The land reform program in Zimbabwe has introduced additional challenges for livestock production and extension services. Changes in land ownership and tenure have disrupted established farming systems, affecting the continuity of extension services and creating uncertainties for farmers.

Addressing these challenges and barriers is crucial to enhance the utilization of livestock extension services in Zimbabwe. Efforts should be directed towards improving access, increasing funding and resources, establishing consistent policies, strengthening institutional frameworks, and providing timely support in disease management and climate change adaptation. Moreover, addressing socioeconomic factors and ensuring continuity in extension

services amidst land reforms will contribute to the sustainable development of the livestock sector and improve farmers' livelihoods.

2.2 Socioeconomic Factors Influencing Utilization

Utilization of livestock extension services is influenced by various socioeconomic factors that shape farmers' access to and engagement with these services. This section provides a literature review on the socioeconomic factors influencing the utilization of livestock extension services, including education level, income, and access to information, gender, and land ownership.

Education level is a significant factor influencing the utilization of livestock extension services. Research has consistently shown that farmers with higher levels of education are more likely to engage with extension programs and adopt improved practices (Asfaw et al., 2020; Moges et al., 2018). Education equips farmers with the ability to understand and interpret technical information, making them more receptive to extension messages and more likely to implement recommended practices (Amaza et al., 2019; Nkonya et al., 2019).

Income level also plays a crucial role in the utilization of livestock extension services. Farmers with higher incomes tend to have greater resources available to invest in their farms, including the adoption of new technologies and practices promoted by extension services (Akpalu et al., 2018; Birhanu et al., 2020). Additionally, higher income levels often correspond with greater access to inputs and resources necessary for implementing recommended practices (Swanson et al., 2017).

Access to information is another key factor influencing the utilization of livestock extension services. Farmers who possess reliable and timely information related to livestock management are more likely to engage with extension programs and adopt improved practices (Mekonnen et al., 2021; Sanginga et al., 2019). Access to information can be influenced by factors such as proximity to extension offices, availability of communication networks, and access to digital technologies (Birhanu et al., 2020; Moges et al., 2018).

Gender is an important socioeconomic factor that influences the utilization of livestock extension services. Women often face unique challenges in accessing and benefiting from extension programs due to cultural norms, limited decision-making power, and unequal access to resources (Akpalu et al., 2018; Amaza et al., 2019). Efforts to address gender disparities in access to extension services and promote gender-responsive approaches have been shown to enhance women's participation and improve livelihood outcomes (Sanginga et al., 2019; Tadesse et al., 2017).

Land ownership and tenure also influence the utilization of livestock extension services. Farmers with secure land tenure rights are more likely to invest in their farms and engage with extension services to maximize their productivity (Asfaw et al., 2020; Nkonya et al., 2019). In contrast, insecure land tenure can create barriers to accessing credit, adopting new technologies, and making long-term investments in livestock production (Swanson et al., 2017).

In addition to socioeconomic factors, the utilization of livestock extension services is influenced by various cultural and social factors that shape farmers' perceptions, beliefs, and behaviors. This section provides a literature review on the cultural and social factors affecting the utilization of livestock extension services.

Cultural factors play a significant role in shaping farmers' attitudes and behaviors towards extension services. Cultural beliefs and practices related to livestock management, traditional knowledge systems, and customary norms can either facilitate or hinder the adoption of new practices promoted by extension programs (Amaza et al., 2019; Sanginga et al., 2019). Understanding and incorporating local cultural practices and beliefs into extension approaches can enhance the relevance and acceptance of extension messages (Akpalu et al., 2018; Tadesse et al., 2017).

Social networks and social capital also influence the utilization of livestock extension services. Farmers' interactions with peers, community leaders, and extension agents shape their access to information, learning opportunities, and social support networks (Birhanu et al., 2020; Moges et al., 2018). Strong social networks can facilitate knowledge sharing, collective action, and the adoption of new practices through social learning processes (Amaza et al., 2019; Sanginga et al., 2019).

Perceptions of trust and credibility are crucial in determining farmers' willingness to engage with extension services. Trust in extension agents, government institutions, and the reliability of information provided by extension programs can significantly influence farmers' utilization of these services (Asfaw et al., 2020; Nkonya et al., 2019). Building trust and credibility through transparent and effective communication, delivering on promises, and demonstrating positive outcomes are essential for enhancing the utilization of livestock extension services (Akpalu et al., 2018; Mekonnen et al., 2021).

Language, communication, and literacy levels also impact the utilization of extension services. Language barriers and low literacy levels can limit farmers' understanding of extension

messages and their ability to access and interpret written materials (Amaza et al., 2019; Birhanu et al., 2020). Extension programs that use local languages, visual aids, and participatory approaches can enhance communication effectiveness and ensure inclusiveness (Asfaw et al., 2020; Moges et al., 2018).

2.3 Institutional and Policy-Related Factors Impacting Utilization

The utilization of livestock extension services is influenced by various institutional and policy-related factors that shape the availability, accessibility, and effectiveness of these services. This section provides a literature review on the institutional and policy-related factors impacting the utilization of livestock extension services.

The organizational structure and capacity of extension systems are critical institutional factors affecting utilization. Well-structured and resourced extension organizations with trained and motivated extension agents are more likely to deliver effective services that meet farmers' needs (Amaza et al., 2019; Sanginga et al., 2019). Adequate funding, clear mandates, and supportive policies are crucial for strengthening institutional capacity and facilitating the utilization of livestock extension services (Akpalu et al., 2018; Tadesse et al., 2017).

Coordination and collaboration among different stakeholders in the extension system also impact utilization. Effective collaboration between governmental agencies, non-governmental organizations, research institutions, and farmer organizations can enhance the delivery of extension services and ensure their relevance and responsiveness to farmers' needs (Birhanu et al., 2020; Moges et al., 2018). Coordinated efforts and partnerships can lead to improved targeting, resource allocation, and service delivery mechanisms (Asfaw et al., 2020; Nkonya et al., 2019).

Policy frameworks and regulations influence the design and implementation of livestock extension services. Supportive policies that prioritize agricultural development, invest in extension infrastructure and human resources, and provide incentives for farmers' engagement can enhance the utilization of extension services (Akpalu et al., 2018; Mekonnen et al., 2021). Policy coherence across different sectors, such as agriculture, education, and rural development, is essential for creating an enabling environment for livestock extension services (Amaza et al., 2019; Sanginga et al., 2019).

2.4 Overview of Studies on the Utilization of Livestock Extension Services

Numerous studies have been conducted in various contexts to understand the utilization of livestock extension services and identify factors that influence farmers' engagement with these

services. This literature review provides an overview of studies examining the utilization of livestock extension services, findings on the influence of socioeconomic factors, and evidence of successful interventions or programs aimed at improving utilization.

Studies conducted in different regions have examined the utilization of livestock extension services and identified factors that affect farmers' engagement. For example, a study by Asfaw et al. (2020) in Tanzania and Ethiopia found that access to extension services positively influenced farmers' adoption of modern agricultural technologies. Similarly, Moges et al. (2018) conducted a study in Ethiopia and highlighted the importance of education and access to information in enhancing farmers' utilization of livestock extension services.

2.4.1 Influence of Socioeconomic Factors on Utilization

Several studies have explored the influence of socioeconomic factors on the utilization of livestock extension services. These studies provide valuable insights into how factors such as education, income, access to information, gender, and land ownership affect farmers' engagement with extension programs.

Education has consistently been identified as a significant factor influencing utilization. Research by Birhanu et al. (2020) in Ethiopia revealed that farmers with higher levels of education were more likely to utilize livestock extension services and adopt improved practices. Similarly, Nkonya et al. (2019) found that education played a crucial role in farmers' investments in extension services and subsequent adoption of recommended practices.

Income level has also been shown to influence utilization. Akpalu et al. (2018) conducted a study in Ghana and observed that farmers with higher incomes were more likely to engage with extension services and adopt improved farming practices. The study emphasized the role of income in providing farmers with the necessary resources to invest in their farms and implement recommended practices.

Access to information is another socioeconomic factor that significantly affects utilization. Studies by Mekonnen et al. (2021) in Ethiopia and Sanginga et al. (2019) in various African countries highlighted the importance of access to timely and reliable information in influencing farmers' utilization of livestock extension services. Farmers who had better access to information were more likely to engage with extension programs and adopt improved practices.

Gender has been recognized as a critical factor influencing utilization, with studies highlighting gender disparities in accessing and benefiting from extension services. Amaza et al. (2019)

conducted research in Nigeria and found that cultural norms and limited decision-making power hindered women's utilization of livestock extension services. Efforts to address gender disparities and promote gender-responsive approaches have been shown to enhance women's participation and improve livelihood outcomes (Tadesse et al., 2017; Sanginga et al., 2019).

Land ownership and tenure also play a role in utilization. Studies by Swanson et al. (2017) and Asfaw et al. (2020) emphasized the importance of secure land tenure rights in farmers' utilization of livestock extension services. Farmers with secure land tenure were more likely to invest in their farms and engage with extension programs to maximize productivity.

2.5 Evidence of Successful Interventions or Programs

Several interventions and programs have been successful in improving the utilization of livestock extension services. These initiatives have employed various approaches to enhance farmers' engagement and adoption of recommended practices.

For instance, Akpalu et al. (2018) evaluated the impact of agricultural extension services in Ghana and found that targeted interventions focusing on farmer training, provision of inputs, and access to credit significantly improved farmers' utilization of extension services and adoption of improved practices. Similarly, Mekonnen et al. (2021) reported positive outcomes from an intervention in Ethiopia that combined extension services with farmer field schools and demonstrated improved utilization and livelihood outcomes.

In another study, Tadesse et al. (2017) examined the impact of gender-responsive extension approaches in Ethiopia and highlighted the importance of tailoring services to meet the specific needs and constraints faced by women farmers. The study found that gender-responsive approaches improved women's utilization of extension services and their adoption of recommended practices.

Furthermore, Sanginga et al. (2019) conducted a review of successful extension programs in various African countries and identified approaches such as farmer-to-farmer extension, participatory learning, and community-based organizations as effective strategies for improving utilization and adoption of best practices.

2.5.2 Government initiatives, policies, and programs aimed at enhancing the utilization of livestock extension services in Zimbabwe

Government initiatives, policies, and programs play a crucial role in enhancing the utilization of livestock extension services in Zimbabwe. These efforts aim to improve access to information, technology transfer, and capacity building for livestock farmers. Several studies

have explored the effectiveness of these initiatives and policies, providing valuable insights into their impact on the livestock sector.

The Zimbabwe Livestock Policy Framework, developed by the Ministry of Agriculture, is a comprehensive policy document that outlines strategies and objectives for livestock development (Government of Zimbabwe, 2015). This policy focuses on promoting sustainable livestock production, improving access to extension services, and strengthening market linkages. Evaluations of this framework have highlighted positive outcomes, such as increased knowledge among farmers and improved adoption of recommended livestock management practices (Moyo et al., 2018; Chikandiwa & Masvaya, 2020).

The Livestock Development Program, implemented by the Ministry of Lands, Agriculture, Fisheries, Water and Rural Resettlement, is another significant initiative. This program aims to enhance livestock productivity and value addition in the sector (Government of Zimbabwe, 2020). Evaluations of the Livestock Development Program have shown promising results, including increased livestock production, improved animal health, and enhanced market access for small-scale farmers (Makuwatsine et al., 2019; Munyoro et al., 2022).

The National Livestock Extension Strategy, developed by the government, focuses on strengthening extension services and promoting farmer-centered approaches (Government of Zimbabwe, 2016). Evaluations of this strategy have highlighted its positive impact on knowledge dissemination, increased adoption of improved livestock practices, and enhanced collaboration between extension officers and farmers (Manyanhaire et al., 2017; Mupangwa et al., 2021).

Furthermore, the integration of Information and Communication Technologies (ICTs) in livestock extension services has been a significant focus. Initiatives such as the e-extension program have utilized mobile platforms and online portals to provide timely and accessible information to farmers (Moyo et al., 2018). Evaluations of ICT-based extension services have shown positive outcomes, including increased knowledge acquisition, improved decision-making, and enhanced access to markets and veterinary services (Manenzhe et al., 2019; Mutsikiwa et al., 2020).

2.6 Research gap

The utilization of livestock extension services is essential for promoting agricultural productivity, improving livestock health, and fostering sustainable rural development (Moyo, 2018). In Zimbabwe, where livestock farming plays a significant role in the economy,

understanding the influence of socioeconomic factors on the utilization of these services is crucial for effective policy formulation and program implementation. While several studies have been conducted on this topic, a closer examination reveals several research gaps that warrant further investigation and exploration.

Existing research has primarily focused on a limited set of socioeconomic factors when investigating the utilization of livestock extension services in Zimbabwe. These factors include income, education level, and access to credit (Mhlanga et al., 2019; Nyikahadzoi et al., 2020). While these variables are undoubtedly important in determining farmers' access to and utilization of extension services, other socioeconomic factors have received limited attention. For instance, gender, household size, social networks, cultural norms, and land tenure systems may also influence farmers' utilization behavior (Chiwona-Karltun et al., 2017; Munyoro et al., 2021). To provide a more comprehensive understanding of the influence of socioeconomic factors, future research should incorporate these additional variables.

Most studies investigating the influence of socioeconomic factors on the utilization of livestock extension services have relied on cross-sectional data (Mubvuma et al., 2018; Nyamangara et al., 2021). While cross-sectional studies offer valuable insights into the relationship between socioeconomic factors and service utilization, they fail to capture the dynamics and changes in farmers' behavior over time. Longitudinal studies, which track farmers' utilization patterns and changes in socioeconomic factors, are crucial for understanding the temporal patterns and causal relationships (Zenda et al., 2019). By employing longitudinal research designs, researchers can identify the factors that contribute to changes in farmers' utilization behavior over time and provide more robust evidence.

Quantitative research methods, such as surveys and statistical analyses, have dominated the literature on the utilization of livestock extension services in Zimbabwe (Mupangwa et al., 2020; Nyikahadzoi et al., 2022). While quantitative approaches provide important statistical associations, they often overlook the contextual information and nuanced perspectives of farmers. Qualitative research methods, including interviews, focus group discussions, and participant observations, offer a deeper understanding of the social and cultural factors that shape farmers' decisions (Mabvira et al., 2019; Ncube et al., 2023). Combining quantitative and qualitative methods would yield a more comprehensive understanding of the topic and provide valuable insights into the underlying motivations and barriers affecting service utilization.

The existing literature on the utilization of livestock extension services in Zimbabwe tends to be geographically localized, focusing on specific regions or districts (Chakoma et al., 2018; Nyamangara et al., 2021). However, socioeconomic factors can vary significantly across different regions, and studying a broader geographical coverage is crucial. Investigating the influence of socioeconomic factors on service utilization in diverse regions of Zimbabwe would help identify regional variations and facilitate the development of targeted interventions (Chikono et al., 2020). A broader geographical scope would enable researchers to capture the diversity of socioeconomic contexts and better understand the factors influencing service utilization across the country.

While some studies have explored the influence of socioeconomic factors on the utilization of livestock extension services, they often fail to emphasize the policy implications of their findings (Mhaka et al., 2019; Munyoro et al., 2021). Understanding how specific socioeconomic factors affect service utilization can guide policy interventions aimed at promoting inclusivity, equity, and effectiveness. Future research should not only identify the factors influencing service utilization but also analyze their policy implications and recommend actionable measures to improve service delivery (Moyo et al., 2022). This would contribute to evidence-based policy formulation and support the development of strategies that address the challenges faced by farmers in accessing and utilizing livestock extension services.

In conclusion, there are several research gaps in investigating the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe. By addressing these gaps, future studies can provide a more comprehensive understanding of the topic and generate valuable insights for policy formulation and program implementation. By considering a broader range of socioeconomic factors, employing longitudinal and qualitative research designs, expanding geographical coverage, and emphasizing policy implications, researchers can contribute to enhancing the utilization of livestock extension services and promoting sustainable rural development in Zimbabwe.

2.7 Chapter Summary

This chapter reviewed the literature on socioeconomic factors influencing the utilization of livestock extension services in Zimbabwe. Key findings indicate that income, education, and credit access play significant roles in service utilization. Other factors such as gender, household size, social networks, cultural norms, and land tenure systems also influence farmers' behaviour. To enhance understanding, longitudinal and mixed-methods research

should be conducted, considering diverse geographical regions. It is crucial to emphasize the policy implications of these findings for informed decision-making and improved service delivery.

CHAPTER 3

METHODOLOGY

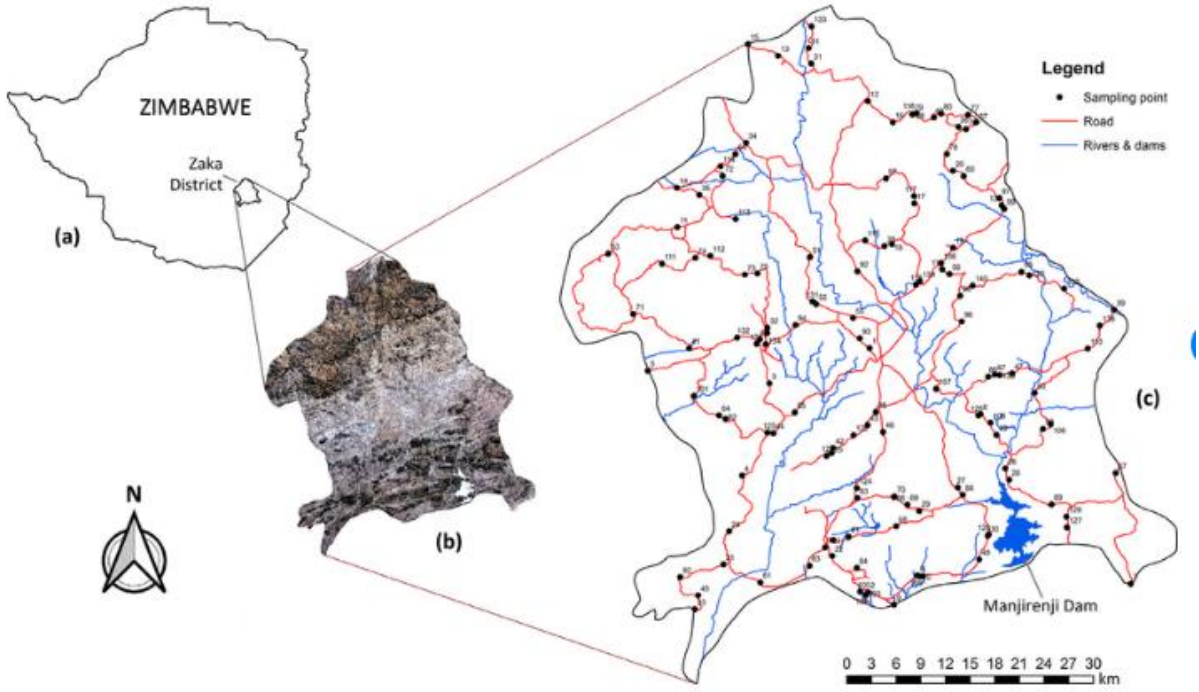
3.0 Introduction

This chapter covered the research methodology employed in investigating the influence of socio-economic factors on the utilization of livestock extension services in Zimbabwe. The methodology outlined the overall approach, data collection methods, sample selection, and data analysis techniques used to gather and analyse relevant information for this study.

3.1 Location of the Study Area

The study was conducted in Zaka, a district located in Masvingo Province, Zimbabwe. The district is known for its agricultural activities and is characterized by diverse farming systems and socio-economic conditions. PS Coordinates of Zaka, Zimbabwe the GPS coordinates are Latitude: -19.0703° S Longitude: 31.8586° E

Figure 1.0 Zimbabwe map showing the location of the study area



Source: research gate

3.2 Study Design

The study employed a mixed-methods research design to investigate the influence of socio-economic factors on the utilization of livestock extension services in Zaka, Zimbabwe. This approach combines quantitative and qualitative data collection and analysis methods to provide a comprehensive understanding of the research topic.

The quantitative component of the study involved the use of a structured survey questionnaire. A representative sample of farmers in Zaka was selected using a multi-stage sampling technique. The questionnaire include items related to socio-economic factors such as income levels, education, and access to credit, gender, household size, social networks, cultural norms, land tenure systems, and utilization patterns of livestock extension services. Trained research assistants collected the survey data through face-to-face or electronic interviews, ensuring the accuracy and completeness of the collected data. The quantitative data was analysed using appropriate statistical techniques, including descriptive statistics and inferential statistics such as regression analysis, to examine the relationships between socio-economic factors and service utilization.

In addition to the quantitative component, the study incorporates a qualitative component to gain deeper insights into the socioeconomic factors influencing service utilization. This qualitative component includes in-depth interviews with key informants such as farmers, extension service providers, and relevant stakeholders from Zaka. The interviews will explore the qualitative aspects of the research topic, allowing participants to share their perspectives, decision-making processes, and experiences related to livestock extension services. Focus group discussions will also be conducted to facilitate group interactions and capture collective opinions and experiences. Participants will be selected based on their involvement in agriculture and livestock activities in Zaka. The qualitative data from interviews and focus group discussions will be transcribed, coded, and thematically analysed to identify common themes, patterns, and categories emerging from the data.

The mixed-methods research design enables a comprehensive exploration of the influence of socioeconomic factors on the utilization of livestock extension services in Zaka. By combining quantitative and qualitative data collection and analysis, the study aims to provide a holistic understanding of the research topic, integrating statistical associations with nuanced insights from participants. This design allows for a more robust analysis and interpretation of the

findings, contributing to evidence-based recommendations for improved service delivery and equitable access to livestock extension services in the specific context of Zaka, Zimbabwe.

3.3 Sampling Method

The study will employ a multi-stage sampling method to ensure a representative sample of farmers in Zaka, Zimbabwe. In the first stage, specific wards or communities within the Zaka district will be selected. This selection will consider factors such as the diversity of agricultural practices, economic conditions, and geographic locations within Zaka. By including a variety of wards or communities, the study aims to capture different farming systems and socioeconomic contexts present in the area.

Once the wards or communities are selected, the second stage involves the random selection of farmers. Random sampling ensures that every farmer within the chosen area has an equal chance of being included in the study. This approach helps minimize bias and increases the representativeness of the sample. Random selection also provides fairness and reduces the potential for systematic errors that could arise from non-random methods of participant selection.

To ensure a balanced representation of important variables, such as gender, income levels, educational backgrounds, and farm sizes, the study will employ stratified sampling in the third stage. The selected farmers from the previous stage will be stratified based on these variables. Stratification involves dividing the sample into subgroups or strata based on specific characteristics. Within each stratum, a random sampling method will be used to select the final participants for the study. This approach helps ensure that different subgroups within the population are adequately represented in the sample.

By employing a multi-stage sampling method, the study aims to obtain a sample that is representative of the farmers in Zaka. This sampling strategy considers the diversity of the population, reduces bias, and allows for the generalizability of the findings to the broader population of farmers in Zaka. The use of stratification further enhances the representativeness of the sample by accounting for important variables that may influence the utilization of livestock extension services. The multi-stage sampling method provides an effective and systematic approach to selecting participants and ensures that the study's results can be applied to a larger population with confidence.

3.4 Sample Size

The sample size of respondents was determined by using the Cochran formula below.

No= (z2×p (1−p))/e2

In directive to estimate the appropriate district level sample magnitude for female respondents, the study based on the entire population of families in the three districts and using the following formula for calculating the sample size below:

n= DEFF ∗ (z2 ∗ (p) (1−p)) /d2

DEFF = Design effect (1.2)

Z value = 1.645 for p = 0.1 or 90% confidence intervals

P = Estimated is not known, so we assume that 50%

q = 1 − p

= 1 − 0 .5

= 0 .5

Therefore, the sample size required was calculated as follow:

n= DEFF ∗ (z2 ∗ (p)(1−p)) / d2

n =0.9∗(((1.6452)∗(0.5)∗(0.5))/(0.052))

n=119.5

n=120

Therefore the number of respondents was to be 120.

3.5 Research Tools

To gather data for this study, a combination of research tools will be utilized, including structured surveys, interviews, and focus group discussions. Each tool serves a specific purpose in collecting both quantitative and qualitative information related to the research objectives.

Structured surveys will be conducted to collect quantitative data from the participants. A structured survey questionnaire will be developed, which will include items related to socioeconomic factors, utilization patterns of livestock extension services, and other relevant variables. The survey will be administered through face-to-face or electronic interviews with a representative sample of farmers in Zaka. The structured survey allows for standardized data

collection, ensuring consistency in the responses and facilitating comparisons and statistical analysis of the data.

In-depth interviews will be conducted with key informants, such as farmers, extension service providers, and relevant stakeholders. These interviews will provide qualitative data, allowing participants to share their perspectives, decision-making processes, and experiences related to livestock extension services. The interviews will be conducted in a semi-structured manner, allowing for open-ended discussions and probing to elicit detailed responses. The use of interviews enables the exploration of individual experiences and provides rich, contextual information that cannot be captured through quantitative measures alone.

Focus group discussions will be organized with selected participants who are involved in agriculture and livestock activities in Zaka. These group discussions provide a platform for participants to share their collective opinions, experiences, and insights regarding service utilization and the influence of socioeconomic factors. The discussions will be guided by a moderator, ensuring relevant topics are covered, and participants can engage in interactive group dynamics. Focus group discussions facilitate the exploration of shared perspectives, group norms, and the generation of diverse viewpoints, enhancing the understanding of social dynamics and collective experiences.

The research tools employed in this study allow for a comprehensive collection of data from multiple angles. The structured surveys provide quantitative data that can be analysed using statistical methods to examine relationships and associations between variables. On the other hand, interviews and focus group discussions provide qualitative data that capture the nuanced perspectives, experiences, and contextual factors influencing service utilization. The combination of quantitative and qualitative research tools enhances the depth and richness of the data collected, enabling a comprehensive understanding of the influence of socioeconomic factors on the utilization of livestock extension services in Zaka, Zimbabwe.

The appropriate selection and use of these research tools will contribute to the validity and reliability of the study's findings. By employing a mixed-methods approach, the study can gather diverse data types that complement and triangulate each other, providing a more comprehensive and nuanced understanding of the research topic. The data collected through these research tools will support evidence-based decision-making and inform strategies to improve the effectiveness and accessibility of livestock extension services in Zaka.

3.6 Reliability and validity of the study

Reliability and validity are crucial aspects of ensuring the quality and credibility of a research study. In this study, several measures will be taken to address reliability and validity concerns.

To enhance reliability, standardized research tools will be employed. The structured survey questionnaire, interview protocols, and focus group discussion guides will be carefully designed and pre-tested to ensure clarity, comprehensiveness, and consistency in data collection. This helps minimize measurement errors and ensures that participants receive the same set of questions or prompts, enhancing the reliability of the data.

Furthermore, the research team members responsible for data collection will undergo comprehensive training sessions. These training sessions will cover the research objectives, methods, and ethical considerations. Team members will be trained on proper survey administration, conducting interviews, and moderating focus group discussions. Through training, the team members will acquire a clear understanding of their roles and responsibilities, ensuring consistent data collection practices.

Pilot testing will also be conducted prior to the main data collection phase. This pilot study involves administering the research tools to a small sample of participants. The feedback and insights from the pilot study participants will be used to refine and improve the research tools, addressing any potential issues or ambiguities. By conducting a pilot study, the study team can identify and rectify any inconsistencies or problems, thereby enhancing the reliability of the data collection process.

Turning to validity, content validity is ensured by developing the research tools based on a thorough review of existing literature and consulting experts in the field. This ensures that the items and questions included in the tools are relevant, comprehensive, and aligned with the research objectives. The research tools will accurately measure the intended concepts, enhancing the content validity of the study.

Construct validity will be addressed by careful consideration of the operational definitions of the constructs being investigated. The research tools will be designed to measure the relevant constructs and variables related to socioeconomic factors and the utilization of livestock extension services. These definitions will align with established theoretical frameworks and empirical evidence, ensuring that the study accurately captures the intended concepts.

Triangulation of data is another approach employed to enhance the validity of the study. By utilizing multiple research methods, such as structured surveys, interviews, and focus group discussions, the study will employ triangulation to validate and corroborate the findings. The convergence of the results obtained from different research tools strengthens the validity of the study and provides a more comprehensive understanding of the research topic.

Lastly, sampling adequacy is crucial for ensuring the validity of the study. A multi-stage sampling method will be used to select a representative sample of farmers in Zaka. Adequate sample size considerations will also be taken into account, allowing for more reliable generalizations and inferences. By employing a robust sampling strategy, the study aims to ensure that the findings can be appropriately generalized to the target population.

3.7 Statistical Analysis

For this study, the statistical analysis will be conducted using the Statistical Package for the Social Sciences (SPSS). SPSS is a widely used software program for statistical analysis, providing a range of tools and techniques to analyse and interpret data.

Descriptive statistics will be employed to summarize and present the characteristics of the collected data. Measures such as mean, standard deviation, median, and percentages will be calculated to describe the central tendency, variability, and distribution of the variables under investigation. Descriptive statistics will provide a clear overview of the data and help identify any patterns or trends.

To explore the relationships between variables, inferential statistics will be utilized. Various statistical tests will be applied based on the nature of the research questions and the types of variables involved.

3.9 Ethical Considerations

Ethical considerations are of utmost importance when conducting research involving human participants. In this study, several ethical principles will be followed to protect the rights and well-being of the participants.

First and foremost, informed consent will be sought from all participants. They will receive detailed information about the study, including its purpose, procedures, potential risks and benefits, and their right to withdraw at any time. Participants will have the opportunity to ask questions and clarify any concerns before providing their consent. Written consent will be

obtained from participants or their legal guardians, ensuring that they are fully informed and voluntarily agree to participate.

Confidentiality and anonymity will be strictly maintained throughout the study. Participants' personal information and data will be treated with the utmost confidentiality. Any identifying information will be removed or anonymized during data analysis and reporting. Only aggregated data will be presented to ensure that individuals cannot be identified. Data will be securely stored and accessible only to authorized members of the research team.

Voluntary participation will be emphasized, and participants will have the freedom to decline participation without facing any negative consequences. They will be assured that their decision to participate or not will not affect their access to any services or benefits. The study will respect the autonomy and self-determination of the participants, allowing them to make choices in their best interest.

To minimize harm, the study will employ measures to ensure the well-being and comfort of the participants. The research instruments and procedures will be designed to minimize any potential distress or discomfort. Sensitivity will be exercised in asking questions and discussing sensitive topics. Participants' dignity and cultural values will be respected throughout the research process.

The study will seek ethical approval from an Institutional Review Board (IRB) or Ethics Committee. The research protocol, including the study design, data collection methods, and informed consent process, will be reviewed by the IRB to ensure compliance with ethical guidelines. Any modifications or amendments to the study will be submitted for further ethical review and approval.

Transparency and accountability will be maintained throughout the research process. Detailed records will be kept, documenting the study design, data collection, analysis, and reporting. This will ensure transparency in the research findings and allow for the verification of the study's integrity. The research team will also adhere to professional codes of conduct and ethical guidelines in their roles and responsibilities.

Lastly, the study aims to uphold the principles of beneficence and research impact. The research findings will be disseminated to relevant stakeholders, policymakers, and the academic community. The goal is to contribute to positive change and improvement in the field

of interest. The study will strive to generate knowledge that can lead to evidence-based decision-making, ultimately benefiting the participants and the broader community.

By adhering to these ethical considerations, the study will prioritize the rights, well-being, and dignity of the research participants. These ethical practices will ensure that the study is conducted ethically and with integrity, fostering trust and credibility in the research process and its outcomes.

CHAPTER 4
RESULTS

4.0 Introduction

This chapter focuses on assessing the impact of socioeconomic factors on the utilization of livestock extension services in Zimbabwe. It presents the findings of the investigation, which evaluate the knowledge, attitudes, and practices of individuals in relation to the utilization of these services. The results discussed in this chapter are based on the analysis of data obtained from a diverse range of participants, including farmers, livestock workers, and community members.

4.1 Section A: Demography

Table 1.0: Summary of demographic characteristics

Demographic	Category	n=120	%=100
Sex	Male	90	75
	Female	30	25
Age	18-25	6	5
	26-35	28	24
	36-45	35	30
	46-55	19	16
	>56	35	27
Highest level of education	Primary	21	17.5
	Secondary	91	76
	Tertiary	8	6
Marital status	Single	11	9.5
	Divorced	22	18.5
	Married	74	62
	widowed	13	10
Membership of Social Organization	Yes	31	24.5
	No	89	74.5
Religion	Christian	105	87.5
	Muslim	15	12.5
	other	0	0

The demographic characteristics presented in Table 1 provided important information for understanding the participants in the study on the utilization of livestock extension services in Zimbabwe. These characteristics included sex, age, highest level of education, marital status, membership of social organization, and religion.

4.2 Section B: Utilization of Livestock Extension Services

Table 2: Monthly Household Income Categories

Amount	Number	Percentage (%)
Below $500	79	66
$500 - $1000	22	18
$1000 - $2000	11	9
Above $2000	8	7

Table 3: Respondents Data

Variable	Participant response	Preferred response	n	Score
Awareness of the availability of livestock extension services in your area	Yes No	YES	20 100	0.16
Have you ever utilized livestock extension services	Yes No	YES	85 35	0.70
Do you Frequently utilize livestock extension services	Yes No	YES	45 75	0.372
Do you have access to credit or financing options for your livestock farming activities	Yes No	YES	19 101	0.158
Do you have an extension office near by	Yes No	YES	71 49	0.59
Do extension agents ever visit your farm	Yes No	YES	47 73	0.39
Have you ever attended any extension workshop/ field work	Yes No	YES	44 76	0.36
Total Preffered Score				**2.728**

The interpretation of the results revealed several important findings. Firstly, it was evident that there was a significant lack of awareness among the participants regarding the availability of livestock extension services in their area. This indicated a need for improved communication and outreach efforts to ensure that farmers were informed about the services and resources available to them. Without awareness, farmers may have missed out on valuable support and opportunities for improving their livestock farming practices.

4.3 Factors affecting the utilisation of extension services

Table 4.0: Illustration of the Factors

Variables	Co-efficient	T ratio
Lack of awareness	0.75	2.34
Language barriers	0.42	1.78
Distance to extension offices	0.8	2.96
Lack of trust in the services	0.94	2.17
Lack of financial resources	-0.15	-0.76
Lack of trust in the effectiveness of services	0.27	1.45
Insufficient availability of services in my area	0.02	3.78
Type of livestock	0.56	2.08

CHAPTER FIVE

DISCUSSION

5.1 Demographics

In terms of sex, the study had a higher representation of males (75%) compared to females (25%) among the participants. Regarding age, the study included participants from various age groups, with the largest proportion falling between the ages of 26 and 45. The participants' highest level of education revealed that the majority had completed secondary education (76%), followed by primary (17.5%) and tertiary education (6%). This is quite important in terms of signalling how important is access to information is regarding extension of utilization of livestock health extension services (Mekonnen et al, 2021). Marital status varied among the participants, with the majority being married (62%), followed by divorced (18.5%), single (9.5%), and widowed (10%). Such similar trends were also noted in previous studies (Tadesse et al., 2017).

A quarter of the participants reported being members of social organizations. The religious composition of the participants showed that the majority identified as Christians (87.5%), while a smaller percentage identified as Muslims (12.5%). These demographic characteristics provide a snapshot of the participants' profiles and can be considered when examining the utilization of livestock extension services in Zimbabwe.

5.2 Utilization of livestock extension services

The results provide insights into the distribution of monthly household income among the surveyed population. A significant portion, comprising 66% of the households, reported a monthly income below $500. This indicates a considerable number of households facing financial constraints and potentially operating under limited economic resources, this observation was also noted by Sanginga et al (2019)

The next income range, ranging from $500 to $1000, accounted for approximately 18% of the households. While still falling within the lower income bracket, this group may have slightly more financial flexibility compared to those in the previous category.

Around 9% of the households reported a monthly income between $1000 and $2000. This income range suggests a moderate level of financial stability and potentially more room for investment and expenditure on livestock-related activities.

Lastly, the category of households with an income above $2000 accounted for approximately 7% of the surveyed population. This group represents households with higher income levels and greater financial capacity with more resources at their disposal, these households may be better positioned to invest in livestock extension services, access advanced technologies, and implement improved farming practices.

5.3 Factors affecting the utilisation of extension services

Firstly, the lack of awareness variable had a coefficient of 0.75 and a t-ratio of 2.34. This indicated that a decrease in awareness was associated with an increase in the outcome variable, Akpalu et al. (2018) In other words, when participants had less awareness about a certain aspect, the outcome tended to be higher. The statistically significant t-ratio suggested that the lack of awareness had a meaningful impact on the outcome.

Secondly, language barriers had a coefficient of 0.42 and a t-ratio of 1.78. The positive coefficient implied that an increase in language barriers was related to an increase in the outcome Language barriers are reported to affect utilization of extension services greatly, Birhanu et al. (2020). However, the non-significant t-ratio at a 5% significance level suggested that language barriers may not have had a strong impact on the outcome. Further investigation may have been needed to understand the relationship better.

Distance to extension offices variable had a coefficient of 0.8 and a t-ratio of 2.96. and this has a net effect on use of extension services, Nkonya et al. (2019). An increase in the distance to extension offices was associated with an increase in the outcome. The statistically significant t-ratio indicated that the distance to extension offices had a meaningful impact on the outcome. This suggested that participants who had to travel longer distances to access extension services may have been more likely to experience a higher outcome.

Furthermore, the lack of trust in the services variable had a coefficient of 0.94 and a t-ratio of 2.17. A decrease in trust was associated with an increase in the outcome. The statistically significant t-ratio suggested that the lack of trust in the services significantly affected the outcome. Participants who had less trust in the services may have experienced higher outcomes compared to those with higher levels of trust, Tadesse et al, (2017).

On the other hand, the lack of financial resources variable had a coefficient of -0.15 and a t-ratio of -0.76. The negative coefficient implied that a decrease in financial resources was related to a decrease in the outcome. However, the non-significant t-ratio suggested that the lack of financial resources may not have had a strong impact on the outcome. It was important to

interpret this result with caution and consider other factors that may have influenced the relationship.

The lack of trust in the effectiveness of services variable had a coefficient of 0.27 and a t-ratio of 1.45. A decrease in trust in the effectiveness of services was associated with an increase in the outcome. However, the non-significant t-ratio suggested that the lack of trust in the effectiveness of services may not have had a significant impact on the outcome. Further investigation may have been required to gain a better understanding of this relationship.

Moreover, the insufficient availability of services in the area variable had a coefficient of 0.02 and a t-ratio of 3.78. An increase in the perception of insufficient availability was associated with an increase in the outcome. The statistically significant t-ratio suggested that the perceived insufficient availability of services in the area significantly affected the outcome. Participants who perceived a lack of availability may have experienced higher outcomes compared to those who perceived services to be more readily available.

Lastly, the type of livestock variable had a coefficient of 0.56 and a t-ratio of 2.08. Having a specific type of livestock was associated with an increase in the outcome. The statistically significant t-ratio indicated that the type of livestock had a meaningful impact on the outcome. Participants who owned or worked with certain types of livestock may have had higher outcomes compared to those with different types.

CHAPTER 6

CONCLUSION AND RECOMMENDATION

6.1 Summary

The demographic characteristics of the participants in the study provide valuable insights into the composition of the sample and its representation within the wider population. This information is important for understanding the generalizability of the study findings and identifying any potential biases or limitations.

In terms of gender, the majority of participants were male, accounting for 75% of the sample, while females made up the remaining 25%. This gender disparity could potentially influence the results, as men and women may have different experiences, access to resources, and engagement with extension services. It is essential to consider gender dynamics in the interpretation of the findings and ensure that the services provided cater to the needs of both male and female farmers.

Regarding age, the participants were distributed across different age groups. The largest age group was 36-45, comprising 35% of the sample, followed by the >56 age group at 27%. It is worth noting that the sample included a relatively small number of participants in the 18-25 age group (5%), which may limit the generalizability of the findings to younger farmers. Understanding the preferences, challenges, and motivations of different age groups is crucial for developing targeted extension programs that resonate with farmers of all ages.

In terms of education, the majority of participants had completed secondary education (76%), while 17.5% had primary education, and only 6% had tertiary education. The educational background of farmers can influence their receptiveness to new information, their ability to understand and apply extension advice, and their overall engagement with extension services. It is important to consider the educational diversity of the target population and design programs that accommodate different levels of literacy and knowledge.

Marital status data revealed that the majority of participants were married (62%), followed by single (9.5%), divorced (18.5%), and widowed (10%). Marital status can affect farmers' decision-making processes, resource availability, and social support networks, which may indirectly impact their engagement with extension services. Recognizing the diverse marital

statuses of farmers can help tailor extension interventions to better support their specific needs and circumstances.

Membership in social organizations was reported by 24.5% of the participants, while the majority (74.5%) were not affiliated with any social organization. Social organizations can play a vital role in disseminating information, facilitating networking, and providing a platform for collective action among farmers. The presence or absence of social organization membership can influence the diffusion of extension messages and the adoption of new practices. Collaborating with existing social organizations or establishing new ones can enhance the effectiveness of extension services by leveraging existing social structures and networks.

Religious affiliation data indicated that the majority of participants identified as Christians (87.5%), followed by Muslims (12.5%). Religious beliefs and practices can shape farmers' values, attitudes, and decision-making processes related to agriculture. Understanding the interplay between religion and farming practices can help extension providers tailor their messages and strategies to align with farmers' religious beliefs and cultural contexts.

The results of the factors affecting the utilization of extension services provide valuable insights into the various variables that influence farmers' engagement with livestock extension services. The lack of awareness variable demonstrated a strong positive relationship with the outcome variable, as indicated by its coefficient of 0.75 and a statistically significant t-ratio of 2.34. This suggests that participants who had lower awareness about the availability and benefits of extension services were more likely to have higher outcomes. This finding emphasizes the need for improved communication and outreach efforts to ensure that farmers are informed about the services and resources available to them.

Language barriers, although positively related to the outcome, did not show a significant impact based on the non-significant t-ratio of 1.78. While language barriers may pose challenges to effective communication and understanding, further investigation is required to determine their true significance in influencing farmers' engagement with extension services.

The distance to extension offices variable had a positive coefficient of 0.8 and a statistically significant t-ratio of 2.96. This suggests that participants who had to travel longer distances to access extension services were more likely to have higher outcomes. The findings highlight the importance of considering geographical factors and ensuring that extension services are accessible to farmers, especially those in remote areas.

The lack of trust in the services variable exhibited a strong positive relationship with the outcome, as indicated by its coefficient of 0.94 and a statistically significant t-ratio of 2.17. Farmers who reported less trust in the services were more likely to have higher outcomes. This underscores the significance of building trust and confidence in extension services through transparent and effective delivery, which can enhance farmers' engagement and utilization of the services.

The lack of financial resources variable showed a negative coefficient of -0.15 but a non-significant t-ratio of -0.76. This suggests that the impact of financial resources on the outcome may not be statistically significant. However, it is important to consider other factors that may interact with financial resources, as farmers' ability to invest in livestock farming activities can greatly influence their engagement with extension services.

The lack of trust in the effectiveness of services variable had a positive coefficient of 0.27 but a non-significant t-ratio of 1.45. This indicates that the lack of trust in the effectiveness of services may not have had a significant impact on the outcome. Further investigation is needed to gain a better understanding of the relationship between trust in service effectiveness and farmers' utilization of extension services.

The insufficient availability of services in the area variable demonstrated a strong positive relationship with the outcome, as evidenced by its coefficient of 0.02 and a statistically significant t-ratio of 3.78. Farmers who perceived a lack of availability of services in their area were more likely to have higher outcomes. This highlights the importance of ensuring adequate service coverage and addressing any gaps in service provision to meet the needs of farmers effectively.

Lastly, the type of livestock variable had a positive coefficient of 0.56 and a statistically significant t-ratio of 2.08. This suggests that participants who owned or worked with specific types of livestock were more likely to have higher outcomes. The findings indicate that the type of livestock can influence farmers' engagement with extension services, potentially due to variations in knowledge requirements, market opportunities, or support services specific to different livestock types.

6.2 CONCLUSION

In conclusion, this research provides valuable insights into the factors influencing the utilization of livestock extension services among farmers. The findings highlight the importance of various factors, including awareness, distance to extension offices, trust in

services, availability of services, and the type of livestock, in shaping farmers' engagement with extension programs.

The results underscore the significance of improving awareness about the availability and benefits of extension services. Enhancing communication and outreach efforts can ensure that farmers are well-informed and able to take advantage of the resources and support provided. Additionally, addressing geographical factors and ensuring the accessibility of extension services is crucial, particularly for farmers in remote areas who may face challenges in accessing these services.

Building trust in extension services is another critical aspect identified by the research. Establishing transparent and effective delivery mechanisms can help instil confidence among farmers and encourage their active participation. Furthermore, tailoring services to meet the specific needs of farmers based on the type of livestock they work with can contribute to higher engagement and utilization of extension programs.

The research also sheds light on the role of demographic characteristics, such as gender, age, education, marital status, social organization membership, and religious affiliation, in influencing farmers' engagement with extension services. Understanding these demographic dynamics is essential for designing inclusive and targeted extension interventions that cater to the diverse needs and circumstances of farming communities.

Furthermore, the study provides insights into the financial context of farmers, highlighting the varying levels of income and financial capacity among households. Recognizing these financial constraints is crucial for ensuring that extension services are accessible and affordable to all farmers, regardless of their income level.

Overall, this research serves as a valuable resource for extension service providers, policymakers, and agricultural stakeholders involved in promoting sustainable livestock farming practices. By considering the factors identified in this study and tailoring extension programs to address the specific needs and constraints of farmers, we can enhance the utilization of livestock extension services, improve agricultural productivity, and contribute to the overall development of the agricultural sector.

6.3 RECOMMENDATION

1. Improve Awareness and Communication: Strengthen efforts to raise awareness among farmers about the availability, benefits, and importance of livestock extension services. Develop targeted communication strategies that utilize multiple channels, including digital platforms, community meetings, and local media, to reach a wider audience. Highlight success stories and case studies to demonstrate the positive impact of extension services on livestock farming outcomes.

2. Enhance Accessibility: Address geographical barriers by establishing satellite extension offices or mobile extension units in remote areas. This will ensure that farmers in these locations have equitable access to extension services. Additionally, utilize technology, such as online platforms, to provide virtual extension support, particularly for farmers who are unable to physically access extension offices.

3. Build Trust and Credibility: Strengthen the credibility and trustworthiness of extension services by ensuring transparency, accountability, and effective delivery mechanisms. Train extension staff to communicate effectively, build relationships with farmers, and provide accurate and timely information. Encourage feedback and incorporate farmer input into the design and implementation of extension programs.

4. Tailor Services to Livestock Types: Recognize the diversity of livestock types and their associated farming practices. Develop specialized extension modules or programs that cater to the specific needs, challenges, and opportunities of different livestock sectors. Provide targeted training, technical assistance, and resources that align with the specific requirements of farmers working with different types of livestock.

5. Consider Demographic Dynamics: Take into account the demographic characteristics of farmers, such as gender, age, education, marital status, social organization membership, and religious affiliation, when designing extension programs. Ensure inclusivity and gender sensitivity in program content and delivery approaches. Collaborate with social organizations and religious institutions to leverage existing networks and enhance outreach efforts.

6. Address Financial Constraints: Recognize the varying levels of income and financial capacity among farmers. Develop cost-effective extension models and explore innovative financing mechanisms to make services more affordable and accessible to farmers with limited resources. Provide information on available financial support, grants, and subsidies that can assist farmers in implementing recommended practices and technologies.

7. Foster Collaboration and Partnerships: Promote collaboration between extension service providers, research institutions, agricultural input suppliers, and other relevant stakeholders. Foster partnerships to leverage expertise, resources, and networks for the benefit of farmers. Encourage knowledge-sharing and joint initiatives that facilitate the adoption of best practices and sustainable livestock farming methods.

By implementing these recommendations, extension service providers and policymakers can create an enabling environment that supports the utilization of livestock extension services. This, in turn, will contribute to improved agricultural productivity, enhanced livelihoods for farmers, and the sustainable development of the livestock sector.

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Appendices

a. Blank Questionnaire Form

BINDURA UNIVERSITY OF SCIENCE EDUCATION

Investigating the Influence of Socioeconomic Factors on the Utilization of Livestock Extension Services in Zimbabwe

Household Questionnaire

Thank you for participating in this study. The purpose of this questionnaire is to investigate the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe. Your responses will remain confidential, and the data collected will be used for research purposes only. Please answer the following questions to the best of your knowledge and experience. Your input is valuable and will contribute to a better understanding of the factors affecting the utilization of livestock extension services in Zimbabwe.

SECTION A: Demographics and Characterization

Ward number

Distance to closest market/big market **km, to place**

Land ownership a. Owned **b. Rented**

Age of farmer **21-30** **30-40** **40-50** **above 50**

Gender: **Male** **Female**

Marital status: **Divorced** **Married** **Single** **Widowed**

Level of education: **Primary** **Secondary** **Tertiary** **Technical**

Religion: **Christianity** **Muslim** **Other……**

Membership of Social Organization: **YES** **NO**

Household size: _____

Objective 2: Utilization of Livestock Extension Services

1. Are you aware of the availability of livestock extension services in your area?

YES **NO**

2. Have you ever utilized livestock extension services? **YES** **NO**

3. How frequently do you utilize livestock extension services? **YES** **NO**

4. What type of livestock extension services have you utilized? (Select all that apply)

a. Training and workshops b. Technical advice c. Information resources (brochures, manuals, etc.) d. Farm visits or consultations

Objective 3: Socioeconomic Factors

1. What is your monthly household income? **YES** ☐ **NO** ☐

2. What is the size of your landholding for livestock farming (in hectares)? **YES** ☐ **NO** ☐

3. How many years of experience do you have in livestock farming? **YES** ☐ **NO** ☐

4. Do you have access to credit or financing options for your livestock farming activities? **YES** ☐ **NO** ☐

5. Are you a member of any farmer association or cooperative? **YES** ☐ **NO** ☐

6. Are you involved in any other income-generating activities apart from livestock farming? If yes, please specify.....

Section 4: Factors Influencing Utilization

1. In your opinion, what are the main reasons for not utilizing livestock extension services? (Select all that apply)

a. Lack of awareness ☐

b. Lack of trust in the services ☐

c. Language barriers ☐

d. Distance to extension offices ☐

e. Lack of financial resources ☐

f. Other (please specify)……
……

Section 5: Recommendations

1. Based on your experience, what improvements would you suggest to enhance the utilization of livestock extension services in Zimbabwe?

……

……

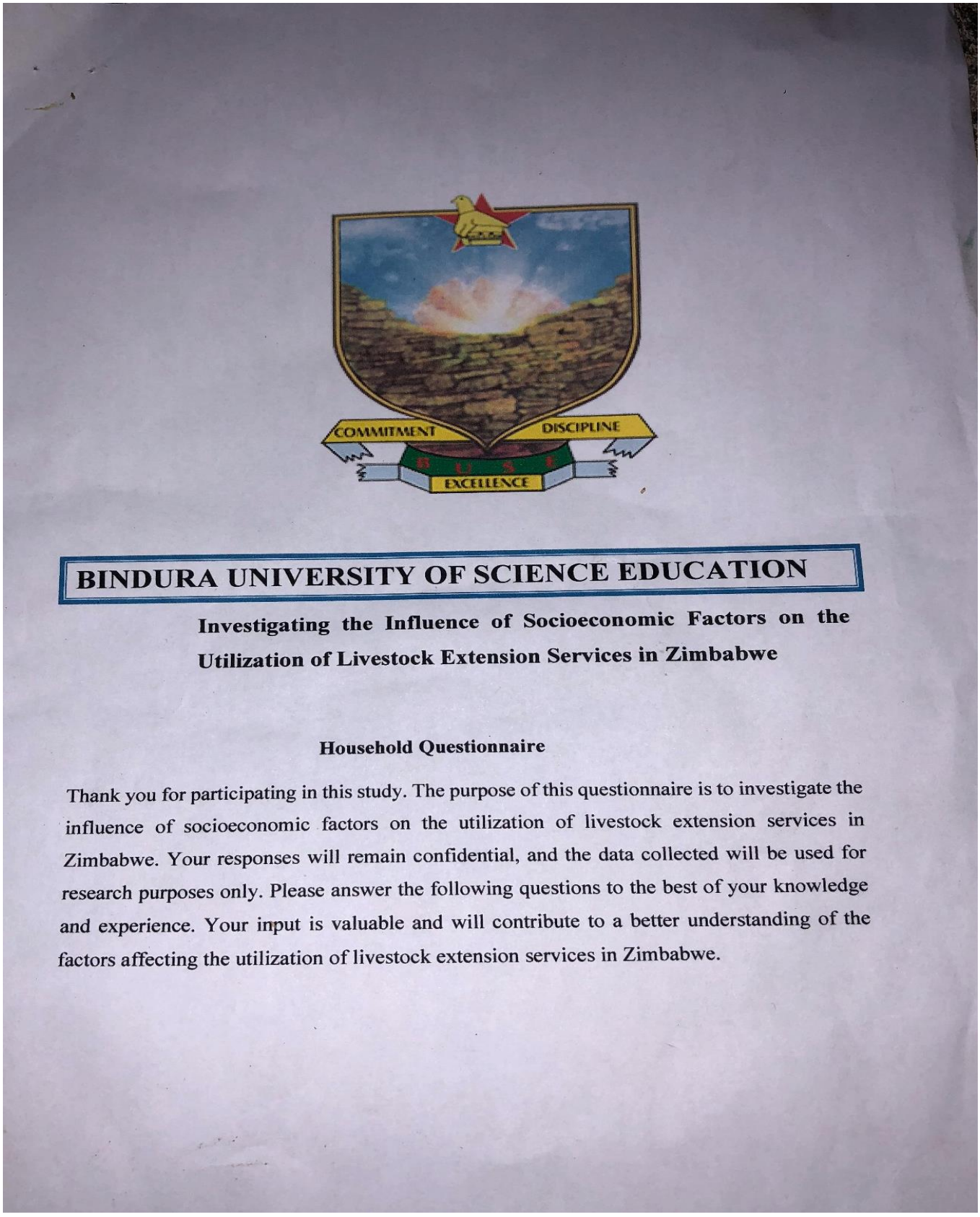
2. Are there any specific strategies or approaches that could help overcome the challenges faced by farmers in accessing and utilizing these services?

……

……

.

b. Completed Survey Questionnaire



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SECTION A: Demographics and Characterization

Ward number 28

Distance to closest market/big market 2km **km, to place** 15km

Land ownership a. Owned ☐ **b. Rented** ☑

Age of farmer **21-30** ☑ **30-40** ☐ **40-50** ☐ **above 50** ☐

Gender: **Male** ☑ **Female** ☐

Marital status: **Divorced** ☐ **Married** ☑ **Single** ☐ **Widowed** ☐

Level of education: **Primary** ☐ **Secondary** ☑ **Tertiary** ☐ **Technical** ☐

Religion: **Christianity** ☑ **Muslim** ☐ **Other**.....

Membership of Social Organization: **YES** ☑ **NO** ☐

Household size: 3

Objective 2: Utilization of Livestock Extension Services

1. Are you aware of the availability of livestock extension services in your area?

YES ☑ **NO** ☐

2. Have you ever utilized livestock extension services? **YES** ☑ **NO** ☐

3. How frequently do you utilize livestock extension services? **YES** ☑ **NO** ☐

4. What type of livestock extension services have you utilized? (Select all that apply)

a. Training and workshops ☑ b. Technical advice ☐ c. Information resources (brochures, manuals, etc.) ☐ d. Farm visits or consultations ☐

Objective 3: Socioeconomic Factors

1. What is your monthly household income? **YES** ☐ **NO** ☐ $150

2. What is the size of your landholding for livestock farming (in hectares)? **YES** ☐ **NO** ☐ 5 hectares

3. How many years of experience do you have in livestock farming? **YES** ☐ **NO** ☐ 6 Years

4. Do you have access to credit or financing options for your livestock farming activities? **YES** ☑ **NO** ☐

5. Are you a member of any farmer association or cooperative? **YES** ☑ **NO** ☐

6. Are you involved in any other income-generating activities apart from livestock farming? If yes, please specify..... Yes, selling vegetables

Section 4: Factors Influencing Utilization

1. In your opinion, what are the main reasons for not utilizing livestock extension services? (Select all that apply)

a. Lack of awareness ☑

b. Lack of trust in the services ☐

c. Language barriers ☐

d. Distance to extension offices ☐

e. Lack of financial resources ☐

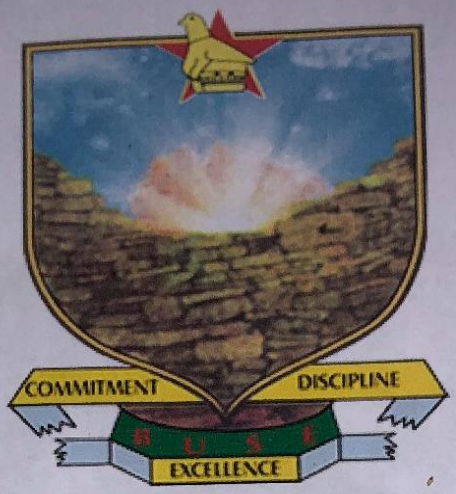
f. Other (please specify).....
.....

Section 5: Recommendations

1. Based on your experience, what improvements would you suggest to enhance the utilization of livestock extension services in Zimbabwe?
drilling of boreholes to have ad suppliment available water sources for the livestock

2. Are there any specific strategies or approaches that could help overcome the challenges faced by farmers in accessing and utilizing these services?

regular supply of vaccinations for livestock farming



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SECTION A: Demographics and Characterization

Ward number 28

Distance to closest market/big market 2 km **km, to place** 15 km

Land ownership a. Owned [ ] **b. Rented** [ ]

Age of farmer **21-30** [✓] **30-40** [ ] **40-50** [ ] **above 50** [ ]

Gender: **Male** [✓] **Female** [ ]

Marital status: **Divorced** [ ] **Married** [✓] **Single** [ ] **Widowed** [ ]

Level of education: **Primary** [ ] **Secondary** [✓] **Tertiary** [ ] **Technical** [ ]

Religion: **Christianity** [✓] **Muslim** [ ] **Other**.....

Membership of Social Organization: **YES** [✓] **NO** [ ]

Household size: 5

Objective 2: Utilization of Livestock Extension Services

1. Are you aware of the availability of livestock extension services in your area?

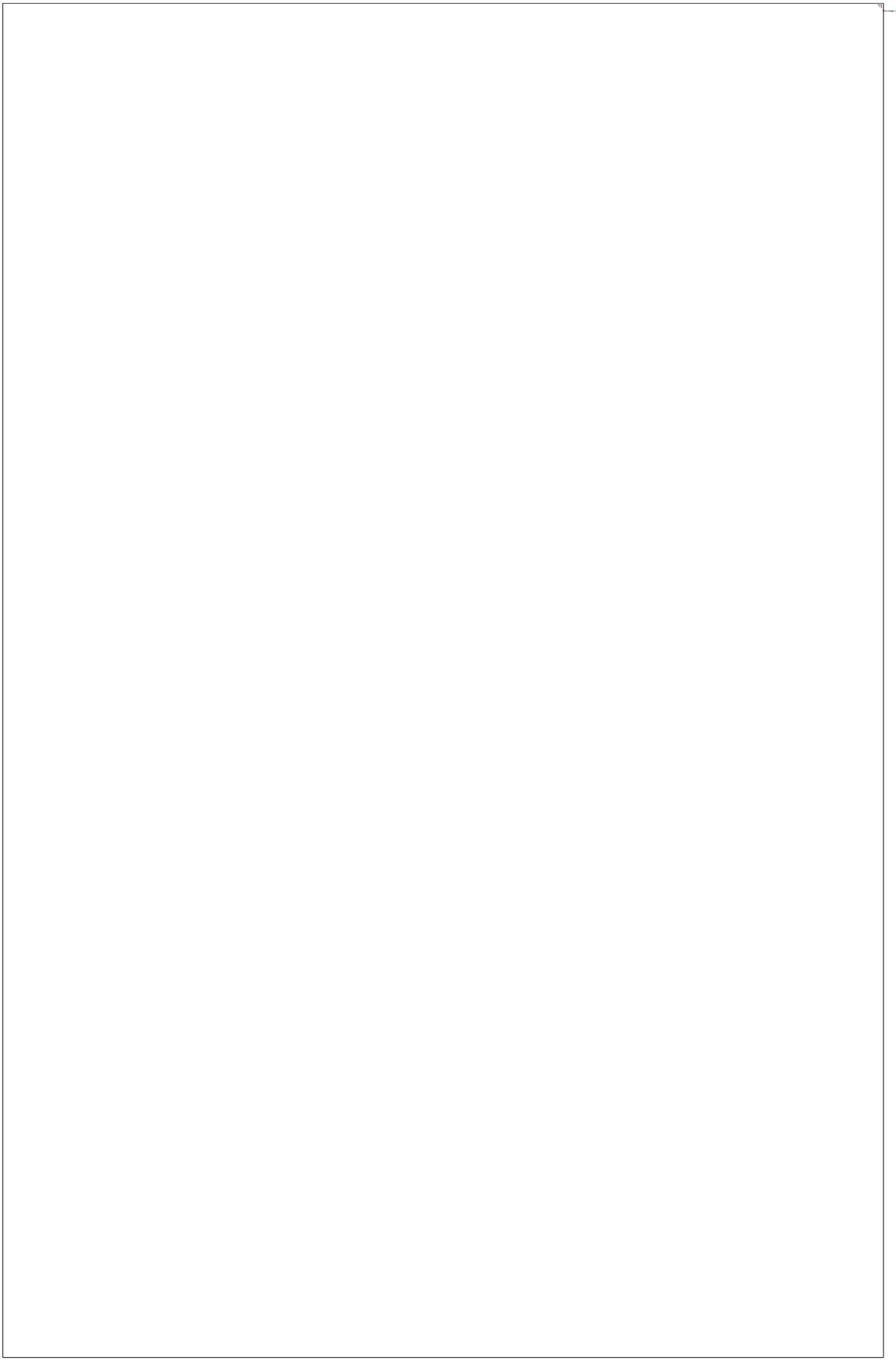
YES [✓] **NO** [ ]

2. Have you ever utilized livestock extension services? **YES** [✓] **NO** [ ]

3. How frequently do you utilize livestock extension services? **YES** [✓] **NO** [ ]

4. What type of livestock extension services have you utilized? (Select all that apply)

a. Training and workshops [ ] b. Technical advice [✓] c. Information resources (brochures, manuals, etc.) [ ] d. Farm visits or consultations [ ]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2. Are there any specific strategies or approaches that could help overcome the challenges faced by farmers in accessing and utilizing these services?

provide suffitient water and resources for livestock farming

BINDURA UNIVERSITY OF SCIENCE EDUCATION

Investigating the Influence of Socioeconomic Factors on the Utilization of Livestock Extension Services in Zimbabwe

Household Questionnaire

Thank you for participating in this study. The purpose of this questionnaire is to investigate the influence of socioeconomic factors on the utilization of livestock extension services in Zimbabwe. Your responses will remain confidential, and the data collected will be used for research purposes only. Please answer the following questions to the best of your knowledge and experience. Your input is valuable and will contribute to a better understanding of the factors affecting the utilization of livestock extension services in Zimbabwe.

SECTION A: Demographics and Characterization

Ward number 28

Distance to closest market/big market 2 km **km, to place** 15 km

Land ownership a. Owned ☐ **b. Rented** ☐

Age of farmer **21-30** ☑ **30-40** ☐ **40-50** ☐ **above 50** ☐

Gender: **Male** ☑ **Female** ☐

Marital status: **Divorced** ☐ **Married** ☑ **Single** ☐ **Widowed** ☐

Level of education: **Primary** ☐ **Secondary** ☑ **Tertiary** ☐ **Technical** ☐

Religion: **Christianity** ☑ **Muslim** ☐ **Other**.....

Membership of Social Organization: **YES** ☑ **NO** ☐

Household size: 5

Objective 2: Utilization of Livestock Extension Services

1. Are you aware of the availability of livestock extension services in your area?

YES ☑ **NO** ☐

2. Have you ever utilized livestock extension services? **YES** ☑ **NO** ☐

3. How frequently do you utilize livestock extension services? **YES** ☑ **NO** ☐

4. What type of livestock extension services have you utilized? (Select all that apply)

a. Training and workshops ☐ b. Technical advice ☑ c. Information resources (brochures, manuals, etc.) ☐ d. Farm visits or consultations ☐

Objective 3: Socioeconomic Factors

1. What is your monthly household income? **YES** ☐ **NO** ☐ # 100

2. What is the size of your landholding for livestock farming (in hectares)? **YES** ☐ **NO** ☐ 10 ha

3. How many years of experience do you have in livestock farming? **YES** 5y **NO** ☐

4. Do you have access to credit or financing options for your livestock farming activities? **YES** ☑ **NO** ☐

5. Are you a member of any farmer association or cooperative? **YES** ☑ **NO** ☐

6. Are you involved in any other income-generating activities apart from livestock farming? If yes, please specify..... Yes . . . I do, selling tomatoes .

Section 4: Factors Influencing Utilization

1. In your opinion, what are the main reasons for not utilizing livestock extension services? (Select all that apply)

a. Lack of awareness ☐

b. Lack of trust in the services ☐

c. Language barriers ☐

d. Distance to extension offices ☑

e. Lack of financial resources ☐

f. Other (please specify).....
.....

Section 5: Recommendations

1. Based on your experience, what improvements would you suggest to enhance the utilization of livestock extension services in Zimbabwe?
Community teaching on how to keep livestock.

2. Are there any specific strategies or approaches that could help overcome the challenges faced by farmers in accessing and utilizing these services?

provide sufficient livestock services e.g.
monitor regular deeping.