**BINDURA UNIVERSITY OF SCIENCE EDUCATION**


**DEPARTMENT OF ENVIRONMENTAL SCIENCE**

# *Evaluating the Effectiveness of Agriculture Insurance in Enhancing Financial Stability, Productivity, and Resilience Among Farmers in Bindura in Response to Climate Change.*

**BY**

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# DEDICATION

I would like to dedicate this project to my mother Patricia Narwo.

# ACKNOWLEDGMENTS

I would to express my gratitude to the support that I have received from my family and friends. I want to give thanks to my supervisor for the guidance that made this study a reality.

# ABSTRACT

This thesis examines the impact of agricultural insurance on the financial stability, productivity, and resilience of farmers in Bindura, Zimbabwe, particularly in the face of climate change challenges. Through a mixed-methods approach involving quantitative surveys and qualitative interviews, the study highlights significant barriers to insurance adoption, including high costs and lack of understanding. Despite high awareness levels, only a small percentage of farmers engage with insurance products. The findings suggest that targeted interventions, such as tailored insurance offerings and educational initiatives, are essential to enhance accessibility and trust in agricultural insurance. Ultimately, this research underscores the potential of insurance as a critical tool for promoting resilience and food security in Zimbabwe's agricultural sector.

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# CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

## 1.1 Introduction

Climate change poses significant challenges to global agriculture, particularly in regions highly dependent on rain-fed farming systems. Zimbabwe, like many other developing nations, faces the stark realities of climate variability, which threaten food security, livelihoods, and overall economic stability. The agricultural sector, which underpins the country's economy, is increasingly vulnerable to extreme weather events such as droughts, cyclones, and unpredictable rainfall patterns (Grey et al., 2020). These events not only reduce crop yields and livestock productivity but also exacerbate poverty and food insecurity among rural communities (Manatsa et al., 2020). For instance, the frequency and severity of droughts in Zimbabwe have intensified over the past decades, leading to substantial declines in maize and other staple crop yields (FAO, 2021a). Similarly, Cyclone Idai in 2019 caused widespread destruction to crops, livestock, and infrastructure, further highlighting the vulnerability of the agricultural sector to climate-related disasters (UNDP, 2021).

The impacts of these climate-related events extend beyond immediate agricultural losses. Reduced agricultural productivity diminishes household incomes and can drive up food prices, making food less accessible to vulnerable populations (Moyo, 2021). Moreover, the cumulative effects of such shocks can erode the resilience of farming communities, leaving them more susceptible to future climate impacts and deepening cycles of poverty and food insecurity (FAO, 2021b). This situation underscores the urgent need for effective risk management strategies to protect the agricultural sector and the livelihoods that depend on it.

In response to these challenges, various mitigatory measures have been proposed and implemented to safeguard agricultural productivity. Among these measures, agricultural insurance has emerged as a potentially effective tool to manage the risks associated with climate change (Sibanda et al., 2022). Agricultural insurance provides financial protection against crop failure, livestock loss, and other climate-related damages, thereby helping farmers recover from

adverse events and maintain their livelihoods (World Bank, 2021). For example, index-based insurance, which pays out benefits based on predetermined environmental indices such as rainfall levels, has been promoted as a viable solution for smallholder farmers in Zimbabwe (USAID, 2020). This type of insurance reduces the need for individual loss assessments, making it more efficient and accessible for farmers in remote areas (Hazell et al., 2017).

Despite its potential, the adoption of agricultural insurance in Zimbabwe remains limited. Several barriers hinder widespread uptake, including the high cost of premiums, limited awareness, and the complex nature of insurance products (Mlambo, 2021). Additionally, economic instability and a lack of trust in financial institutions further discourage farmers from investing in insurance (Mutambara, 2020). Addressing these challenges is critical to enhancing the effectiveness of insurance as a mitigatory measure against climate-related risks.

Climate change continues to pose significant threats to Zimbabwe's agricultural sector hence the role of agricultural insurance in mitigating these risks becomes increasingly important. By providing a safety net for farmers, insurance can contribute to building more resilient agricultural systems and securing the livelihoods of millions of Zimbabweans (World Bank, 2021).

## 1.2 Background

Agriculture is the cornerstone of Zimbabwe’s economy, playing a pivotal role in both employment and income generation. The sector is not only a major contributor to the country's Gross Domestic Product (GDP), but it also supports the livelihoods of nearly 70% of the population, particularly in rural areas (ZimStat, 2020). The country’s agricultural landscape is diverse, comprising smallholder farms and commercial estates that produce a variety of crops, including maize, tobacco, cotton, and horticultural products (FAO, 2021a). Livestock farming also represents a significant portion of the agricultural sector. Despite its importance, agriculture in Zimbabwe is highly susceptible to a range of risks, with climate change being one of the most pressing challenges.

Over the past few decades, Zimbabwe has witnessed increased climatic variability, characterized by more frequent and severe droughts, erratic rainfall patterns, and rising temperatures (Mugabe, 2020). These climatic changes have led to a decline in agricultural productivity, resulting in food insecurity, loss of income, and increased poverty levels among farming communities (FAO,

2021b). For instance, the 2018/2019 agricultural season saw a significant reduction in maize yields due to prolonged drought, exacerbating the country's already fragile food security situation (FAO, 2021b). Such climatic shocks disrupt agricultural cycles, reduce crop yields, and weaken the resilience of farmers, particularly smallholders who have limited resources to adapt to these changes (Manatsa et al., 2020).

In addition to climatic challenges, the agricultural sector in Zimbabwe is plagued by other risks, including natural disasters such as floods and cyclones, pest infestations, and fluctuating market prices (UNDP, 2021). These risks further compound the vulnerability of farmers, leading to unpredictable income levels and unstable livelihoods. The cumulative impact of these factors has created a challenging environment for agricultural production and sustainability in Zimbabwe (Moyo, 2021).

To address these risks, various risk management strategies have been explored, with agricultural insurance emerging as a promising solution. Agricultural insurance is designed to protect farmers against financial losses resulting from adverse weather conditions, pests, diseases, and other unforeseen events that can damage crops and livestock (Sibanda et al., 2022). By transferring the risk from farmers to insurers, agricultural insurance provides a safety net that helps stabilize farmers' incomes, ensuring that they can recover and continue farming even after a significant loss (FAO, 2021c).

Despite the potential benefits of agricultural insurance, its adoption in Zimbabwe has remained relatively low. Several factors contribute to this low uptake. One of the primary barriers is the high cost of insurance premiums, which many smallholder farmers find unaffordable (USAID, 2020). Additionally, there is limited awareness and understanding of how agricultural insurance works, particularly among rural communities (FAO, 2021c). Many farmers are unaware of the products available to them or do not fully understand the benefits of insurance as a risk management tool (Mlambo, 2021).

Economic instability in Zimbabwe has also played a significant role in the low adoption of agricultural insurance. Hyperinflation, currency fluctuations, and political uncertainty have eroded trust in financial institutions, including insurance companies (Mutambara, 2020). Farmers are often reluctant to invest in insurance when they are uncertain about the reliability of payouts

or the future value of their investments (ZIMRA, 2021). Moreover, the limited availability of tailored insurance products that meet the specific needs of different types of farmers has hindered the broader application of insurance in the sector (FAO, 2020).

Given the importance of agriculture to Zimbabwe's economy and the increasing risks posed by climate change, understanding how insurance can effectively mitigate these risks is crucial. There is a need for comprehensive research that evaluates the effectiveness of agricultural insurance in protecting farmers from climate-related risks, assesses the challenges to its adoption, and explores potential strategies to enhance its accessibility and impact (World Bank, 2021). By doing so, this study aims to contribute to the development of a more resilient and productive agricultural sector in Zimbabwe, one that can withstand the challenges of a changing climate and continue to support the livelihoods of millions of Zimbabweans (Chigumira, 2022).

## 1.3 Problem Statement

The agricultural sector in Zimbabwe, which is crucial to the country's economy and the livelihoods of millions, faces increasing risks from climate change. Adverse weather events such as droughts, floods, and erratic rainfall patterns have become more frequent and severe, leading to significant declines in crop yields and livestock productivity (FAO, 2021). These challenges exacerbate poverty, food insecurity, and economic instability among farmers, particularly smallholders who lack the resources to absorb such shocks (Mugabe, 2020). In response to these threats, agricultural insurance has been proposed as a mitigatory measure that can enhance the financial stability, productivity, and resilience of farmers by providing compensation for losses caused by climate-related events (Sibanda et al., 2022).

Despite the potential benefits, the uptake of agricultural insurance in Zimbabwe remains low, and its effectiveness in achieving these goals is not well understood. Barriers such as high premium costs, limited awareness, and economic instability have hindered widespread adoption, raising questions about the practicality and impact of insurance as a tool for climate risk management in the agricultural sector (Mlambo, 2021). Given these challenges, there is a need for a comprehensive evaluation of how insurance can be effectively implemented to support farmers in Zimbabwe. This study seeks to address this gap by assessing the effectiveness of insurance in enhancing financial stability, productivity, and resilience among farmers in the face of climate change. By examining the current insurance models and identifying the factors that influence

their success or failure, the study aims to provide insights that can inform policy and improve the design and delivery of agricultural insurance products in Zimbabwe (World Bank, 2021).

## 1.4 Aim

To evaluate the effectiveness of agricultural insurance in enhancing the financial stability, productivity, and resilience of the agriculture sector in Zimbabwe in response to climate change

## 1.5 Objectives

1. To assess the impact of agricultural insurance on hedging the financial stability of farmers in Zimbabwe against the impacts of climate change.
2. To analyze the influence of agricultural insurance on hedging agricultural productivity against the impacts of climate change.
3. To assess the awareness, perception, and adoption rates of agricultural insurance among Zimbabwean farmers.
4. To identify the challenges and barriers to the adoption of agricultural insurance in Zimbabwe.

## 1.6 Research Questions

1. How does agricultural insurance hedge the financial stability of farmers in Zimbabwe against the impacts of climate change?
2. How does agricultural insurance hedge agricultural productivity against the impacts of climate change in Zimbabwe?
3. What is the level of awareness and perception of agricultural insurance among farmers in Zimbabwe?
4. What are the main challenges and barriers faced by Zimbabwean farmers in adopting agricultural insurance?
5. How can the effectiveness and adoption of agricultural insurance be improved.

## 1.7 Significance of Study

The study of agricultural insurance in Zimbabwe primarily benefits smallholder farmers, who make up a significant portion of the country's agricultural community. These farmers are particularly vulnerable to climate shocks, such as droughts and unpredictable rainfall. By evaluating the effectiveness of agricultural insurance, the research aims to tailor solutions that

stabilize their incomes and provide financial support during crop or livestock losses. This financial security can encourage farmers to reinvest in their operations, adopt new technologies, and build resilience against future climate events.

Agricultural sector stakeholders, including policymakers and extension officers, will also gain valuable insights from this research to strengthen the country's food production systems. By understanding the effectiveness of agricultural insurance, these stakeholders can develop policies and programs that promote insurance uptake, address accessibility barriers, and enhance overall agricultural productivity.

Moreover, the study holds significance for the Zimbabwean government and policymakers by offering insights into promoting agricultural insurance as a component of national strategies to combat food security issues exacerbated by climate change. The findings can guide targeted interventions and policy adjustments that support insurance models tailored to local agricultural practices, ultimately contributing to poverty reduction and economic stability.

Additionally, insurance providers and financial institutions will benefit from a better understanding of the needs and challenges faced by smallholder farmers. Insights gained from this research can help these providers develop more affordable, accessible, and tailored insurance products, allowing them to expand their client base while contributing to climate resilience.

International development organizations, such as the World Bank, FAO, USAID, and UNDP, will find the study relevant for designing and funding programs that enhance agricultural insurance systems. The findings can help align international aid and development projects with practical, evidence-based solutions that support rural livelihoods and food security.

Local communities and vulnerable populations will also experience positive impacts from a more resilient agricultural sector. If farmers can maintain productivity and income stability despite adverse weather conditions, communities that rely on agriculture will be less susceptible to food scarcity, malnutrition, and poverty. The study's insights into effective insurance models can create a cascading effect, where increased resilience among individual farmers enhances the overall food security and economic health of communities.

Academics and researchers stand to benefit significantly from this study as well. The research will contribute to the academic literature on agricultural risk management and climate resilience in developing countries, providing a foundation for future inquiries into similar interventions in other regions.

Finally, the findings could shape the future of Zimbabwe's agricultural sector by establishing sustainable farming practices that future generations can rely on. By creating a framework for resilient agriculture, the study supports long-term adaptation to climate change, ensuring the continuation of Zimbabwe's farming legacy amidst evolving environmental challenges.

# CHAPTER 2: LITERATURE REVIEW

## 2.1 Introduction

Climate change poses severe challenges to global agriculture, and in regions such as Zimbabwe, where farming is predominantly rain-fed, the repercussions are particularly profound. Zimbabwe's agricultural sector, which underpins both the economy and the livelihoods of the majority rural population, is highly susceptible to climate variability and extreme weather events, such as droughts, floods, and erratic rainfall patterns (Brown, 2012). Over the past decades, climate change has intensified in Zimbabwe, contributing to increased food insecurity, poverty, and economic instability (Nyahunda & Tirivangasi, 2019). The frequency and severity of droughts, particularly in maize-producing regions, have led to recurrent declines in staple crop yields, directly impacting household income and food availability (Manatsa et al., 2020).

In response to these vulnerabilities, agricultural insurance has emerged as a possible solution to help farmers mitigate the financial impacts of climate-induced losses. By providing financial compensation following adverse weather events, agricultural insurance can enable farmers to recover from significant losses, stabilize their incomes, and maintain productivity (World Bank, 2021). However, despite its potential to build resilience in the sector, the adoption of agricultural insurance in Zimbabwe remains limited. Barriers include high premiums, limited understanding of insurance products, economic instability, and low trust in financial institutions (Mlambo, 2021).

This literature review provides an in-depth exploration of the current body of research surrounding climate change impacts on Zimbabwean agriculture, the role of agricultural insurance in building resilience, and the key challenges to its adoption. Additionally, it examines comparative studies on agricultural insurance from other developing nations, offering insights into best practices and potential lessons for Zimbabwe.

## 2.2 Climate Change and Agricultural Vulnerability

Agriculture in Zimbabwe is highly dependent on seasonal rainfall, making it exceptionally vulnerable to climate variability and extreme weather events. According to the Zimbabwe

National Climate Change Response Strategy, temperatures in the country have increased by an average of 1°C since the 1960s, with a projected additional rise of 3°C by 2100 if no mitigatory measures are undertaken (Zimbabwe_NAPF_2019-2030, n.d.). This temperature increase has been accompanied by increasingly erratic rainfall patterns, causing a greater frequency of droughts and, conversely, intense rainfall leading to flooding in certain regions.

These changes have had significant adverse effects on crop yields and livestock health. Maize, the staple crop of Zimbabwe, has seen reduced yields due to drought and heat stress, contributing to increased food insecurity (Chikodzi et al., 2019). Furthermore, extreme weather events like Cyclone Idai in 2019 devastated farming communities in the southeastern parts of the country, destroying crops, livestock, and infrastructure and displacing thousands of people (United Nations Development Programme [UNDP], 2021). This climate-induced volatility has weakened the resilience of the agricultural sector and heightened the economic vulnerability of rural households, particularly smallholder farmers who lack resources to adapt to these changes (Manatsa et al., 2020).

## 2.3 Economic and Social Impacts of Climate Variability on Agriculture

The economic consequences of climate change on agriculture are extensive, affecting household income, food prices, and overall economic stability. As agricultural productivity declines, rural incomes are reduced, leading to diminished purchasing power and increased vulnerability to food insecurity. Reduced agricultural output also drives up food prices, putting further strain on low-income households (Moyo, 2021). The cumulative effect of these economic challenges can trap farming communities in cycles of poverty, further diminishing their capacity to respond to climate shocks (FAO, 2021).

In Zimbabwe, where agriculture contributes nearly 17% to the Gross Domestic Product (GDP) and supports approximately 70% of the population, the stability of this sector is critical to the nation's economy (Zimbabwe National Statistics Agency [ZimStat], 2020). Studies by Nyahunda and Tirivangasi (2019) emphasize that reduced agricultural productivity has broader repercussions, affecting national food security and leading to higher reliance on food imports.

These studies underscore the need for climate adaptation strategies that can cushion farmers and reduce the overall economic impact of climate change on Zimbabwe's agricultural sector.

## 2.4 Agricultural Insurance as a Risk Mitigation Tool

Agricultural insurance has been identified as a potential risk management tool to help farmers cope with the financial risks posed by climate variability. Unlike traditional disaster relief programs, agricultural insurance offers a proactive approach to risk management by providing financial compensation in the event of crop or livestock loss due to adverse weather events (Sibanda et al., 2022). This enables farmers to recover quickly after a disaster, continue their operations, and reduce the need for government or donor assistance (World Bank, 2021).

A notable innovation in agricultural insurance is the development of index-based insurance, which calculates payouts based on a predetermined index, such as rainfall levels or temperature, rather than individual farm assessments. This type of insurance is particularly beneficial for smallholder farmers as it simplifies claims processes and lowers administrative costs, making it more affordable and accessible (Hazell et al., 2017). Studies have shown that index-based insurance can play a significant role in building resilience, as it reduces financial uncertainty and enables farmers to adopt improved agricultural practices without fear of total loss (United States Agency for International Development [USAID], 2020).

## 2.5 Challenges in the Adoption of Agricultural Insurance in Zimbabwe

Despite the potential benefits of agricultural insurance, its uptake in Zimbabwe remains limited. Multiple factors contribute to this low adoption rate, including high premium costs, limited awareness, economic instability, and lack of tailored insurance products.

- **High Premium Costs**: The high cost of insurance premiums is a major barrier for smallholder farmers in Zimbabwe, many of whom operate on low profit margins and lack disposable income to invest in insurance (Mlambo, 2021). Studies have shown that premium subsidies can encourage adoption; however, such subsidies require significant government or donor support, which is often lacking in Zimbabwe (Mutambara, 2020).

- **Limited Awareness and Understanding**: Another significant barrier is the limited awareness and understanding of agricultural insurance products, especially in rural areas. Many farmers are unfamiliar with insurance concepts and may perceive insurance as complex and inaccessible. According to FAO (2021), lack of awareness of insurance options and benefits often leads to misconceptions, reducing the perceived value of insurance as a risk management tool.
- **Economic Instability and Low Trust in Financial Institutions**: Zimbabwe's economic instability, characterized by hyperinflation and currency fluctuations, has eroded trust in financial institutions, including insurance providers (Mutambara, 2020). Farmers are reluctant to invest in insurance due to concerns over the reliability of payouts and the potential devaluation of their premiums in the event of currency depreciation.
- **Lack of Tailored Insurance Products**: The availability of insurance products tailored to the specific needs of different types of farmers is limited. Agricultural activities and risks vary significantly across regions and crops, and a "one-size-fits-all" insurance model is often insufficient to meet the diverse needs of Zimbabwe's farmers (FAO, 2020). Customizing products for different farm types and climatic conditions could enhance the appeal of insurance products to a broader range of farmers.

## 2.6 Comparative Studies and Lessons from Other Developing Nations

Agricultural insurance has gained traction in other developing nations facing similar climate-related challenges, offering valuable lessons for Zimbabwe. In countries like India, Kenya, and Ethiopia, agricultural insurance schemes have been implemented to safeguard farmers against climate-related risks. For instance, India's Pradhan Mantri Fasal Bima Yojana (PMFBY) has been a significant government-led effort to increase insurance coverage among farmers through premium subsidies and public awareness campaigns (Kumar, 2019). Similarly, Kenya's Agriculture and Climate Risk Enterprise (ACRE) Africa has successfully promoted index-based insurance for smallholders, demonstrating that simplified and affordable insurance models can attract higher uptake (World Bank, 2021). Lessons from these countries suggest that government support, targeted subsidies, and partnerships with private insurers can increase the affordability and appeal of agricultural insurance. Furthermore, public education campaigns can raise

awareness and understanding among farmers, addressing misconceptions and increasing trust in insurance as a viable risk management tool (Kumar, 2019).

## 2.7 Conceptual Framework: The Role of Agricultural Insurance in Climate Resilience

Agricultural insurance, by providing a financial safety net for farmers, can play a pivotal role in climate resilience. The conceptual framework for this study is based on the premise that effective agricultural insurance can enhance the adaptive capacity of farmers by improving financial stability, enabling investment in climate-smart practices, and reducing the negative impacts of climate variability on agricultural productivity (Sibanda et al., 2022). The framework explores the relationship between insurance, financial stability, and resilience, emphasizing how overcoming barriers to insurance adoption could strengthen Zimbabwe's agricultural sector against climate-related shocks.

## 2.8 Summary

This literature review has examined the impacts of climate change on Zimbabwe's agricultural sector and explored the potential of agricultural insurance to mitigate these risks. The review identified key challenges to insurance adoption, such as high costs, limited awareness, and economic instability, while highlighting lessons from other countries that have implemented successful agricultural insurance models. This chapter sets the stage for the subsequent analysis of how agricultural insurance can be adapted and expanded to enhance resilience and secure livelihoods in Zimbabwe's vulnerable agricultural communities. The next chapter will detail the research methodology used to assess the effectiveness and adoption of agricultural insurance in the context of Zimbabwean agriculture.

# CHAPTER 3: RESEARCH METHODOLOGY

## 3.0 Introduction

This chapter details the research methodology used to evaluate the effectiveness of agricultural insurance in enhancing financial stability, productivity, and resilience among farmers in Matepatepa, Bindura District, Zimbabwe. The study investigates how agricultural insurance adapts to the impacts of climate change, with a focus on both quantitative and qualitative dimensions of farmer experiences. It is essential to apply robust research methods to derive accurate and meaningful conclusions that can inform policy and practice in the region.

## 3.1 Research Design

This study employs a mixed-methods research design, which integrates both quantitative and qualitative approaches to achieve a holistic understanding of the impact of agricultural insurance on the financial stability and productivity of smallholder farmers. The quantitative component focuses on collecting numerical data, allowing for statistical analysis that can identify trends, correlations, and patterns related to agricultural insurance uptake and its associated benefits. For instance, researchers can analyze metrics such as income stability, crop yield variations, and the frequency of insurance claims to draw conclusions about the financial security that insurance provides.

In addition to the numerical data, the qualitative aspect seeks to uncover deeper contextual insights by gathering farmers' personal experiences and perceptions regarding agricultural insurance. Through methods such as interviews and focus group discussions, the study aims to explore how farmers interpret their encounters with insurance programs, their perceived barriers, and the cultural narratives that influence their decision-making processes. This mixed-methods approach allows researchers to leverage the strengths of both methodologies; while quantitative data provides breadth, qualitative insights offer depth, illuminating the complexities surrounding farmers' interactions with agricultural insurance. As Creswell (2011) notes, employing mixed methods facilitates a more comprehensive investigation of research problems by bridging the gap between numerical findings and human experiences.

## 3.2 Study Area

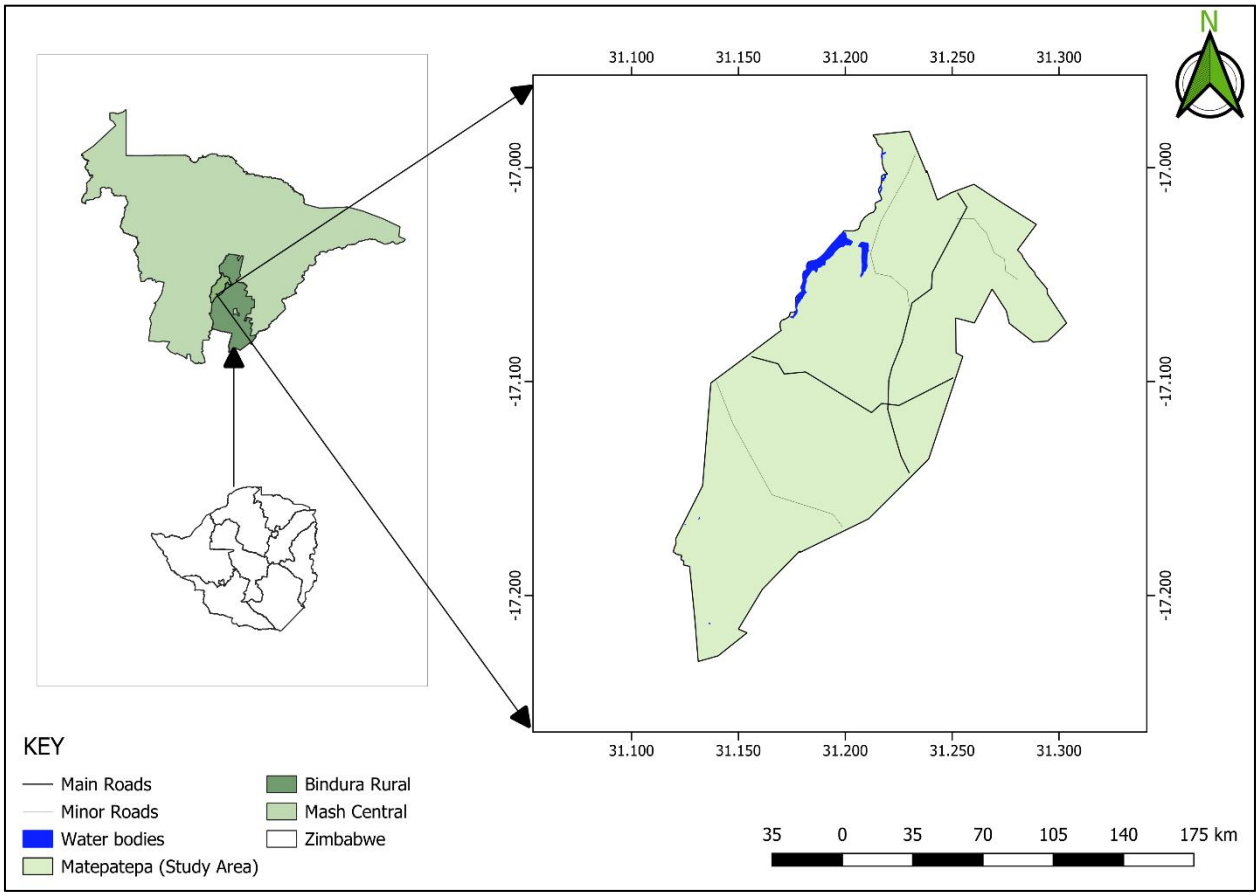


*Figure 3. 1: Study Map*

The research is located in Matepatepa, a significant agricultural region within Bindura District, Zimbabwe. This area is primarily characterized by smallholder farmers who are particularly vulnerable to the adverse effects of climate change. Farmers in Matepatepa experience challenges such as frequent droughts, which can severely impact crop production, and erratic rainfall patterns that complicate planning and resource management (Mavhunga, 2019). Understanding the local context of Matepatepa is crucial, as it not only shapes the conditions under which farmers operate but also influences their willingness and capacity to adopt agricultural insurance. The specific agricultural practices and economic realities faced by the farmers in this region will directly affect both the uptake of insurance products and the effectiveness of such programs in enhancing resilience against climate variability.

## 3.3 Population

The target population for this study comprises approximately 1,000 registered smallholder farmers in Matepatepa, as documented by the Bindura District Agricultural Office (2023). This population is diverse, representing a mixture of demographic factors including age, gender, and varied farming practices, all of which are vital for assessing the effectiveness and relevance of agricultural insurance across different segments. By focusing on this population, the research aims to capture a comprehensive picture of how the diverse experiences and challenges faced by farmers relate to the adoption and outcomes of agricultural insurance. The demographic diversity within this group provides an opportunity to explore how various factors may influence farmers' perceptions, behaviors, and ultimately, the efficacy of insurance schemes in bolstering financial stability.

## 3.4 Sampling Technique

To ensure a representative sample for the study, a stratified random sampling method will be employed. Selecting an adequate sample size is crucial for achieving statistical power while ensuring the sample accurately reflects the broader population of smallholder farmers in Matepatepa. The target sample size of 50 farmers was determined using random sampling that balances feasibility and robustness.

## 3.5 Sampling Procedure

To ensure a representative sample, the study will utilize a stratified random sampling method. In this approach, farmers will be categorized into 3 strata based on key characteristics such as gender, age, and farm size. Stratification is instrumental in capturing the diversity present within the farming community; by ensuring that subgroups such as young versus older farmers or small-scale versus larger-scale farmers are adequately represented, the study can glean richer insights into how various demographic factors influence the effectiveness of agricultural insurance.

To conduct the random sampling within each of these strata, a simple random sampling technique will be applied. This involves first creating a complete list of eligible farmers within each stratum. Subsequently, a random number generator or a drawing method will be used to select participants until the desired number of farmers from each stratum is reached. By employing this approach, the study minimizes selection bias and enhances the validity of its findings. This method not only

facilitates the identification of general trends but also enables nuanced comparisons across different demographic groups.

## 3.6 Data Collection Instruments

For data collection, three primary instruments will be utilized, each tailored to capture different facets of the research question:

### 3.6.1 Structured Questionnaire

A structured questionnaire will serve as a key survey instrument in this study, featuring a combination of closed and open-ended questions. The closed questions are designed to quantify farmers' experiences with agricultural insurance, allowing researchers to gather numerical data that can be analyzed statistically. For instance, questions may ask respondents to rate their satisfaction with insurance products on a scale (e.g., from 1 to 5) or indicate whether they have experienced any claims in the past three years (yes/no).

In contrast, open-ended questions will provide an opportunity for farmers to express their insights and opinions in their own words. These qualitative responses can delve into the personal experiences of farmers, highlighting specific instances where agricultural insurance has impacted their financial stability, productivity, or resilience against climate change. This dual approach ensures a balanced methodology: while the quantitative data helps identify trends and patterns across the broader farmer population, the qualitative responses offer rich narratives that contextualize those findings (Fowler, 2014). By analyzing both types of data, the research will be better equipped to evaluate how agricultural insurance affects farmers' lives in Bindura contextually. This combination ensures a balanced approach, allowing researchers to quantify trends while also diving into the personal narratives that provide context to those numbers (Fowler, 2014).

### 3.6.2 Interview Guides

To gain a deeper insight into the personal narratives of farmers, semi-structured interview guides will be developed basing on the questionnaire . These guides enable researchers to conduct in-depth interviews, facilitating a conversational approach that encourages participants to share their experiences and perceptions regarding agricultural insurance. For example, interview questions

might prompt farmers to discuss the specific challenges they face due to climate change and how agricultural insurance has either alleviated or compounded those challenges.

The semi-structured format allows researchers to follow up on interesting points or themes that arise during the conversation, ensuring that the discussions remain focused while also flexible enough to explore unanticipated topics. This qualitative depth is crucial for capturing the richness of individual experiences, as it provides nuanced insights that complement the statistical findings from the structured questionnaire. By integrating personal stories with quantitative data, the research can present a comprehensive evaluation of how agricultural insurance enhances financial stability and resilience among farmers in Bindura.

### 3.6.3 Focus Group Discussion Guides

Additionally, focus group discussions will be organized to foster interaction among groups of farmers. These discussions aim to create a platform for participants to share their experiences regarding agricultural insurance and collaboratively explore resilience strategies in response to climate change. By bringing together farmers from diverse backgrounds and experiences, focus groups facilitate a dynamic exchange of ideas, allowing participants to react to and build upon each other's contributions (Morgan, 1998). For instance, a focus group might discuss specific resilience strategies employed by farmers who have successfully navigated crop losses due to extreme weather events. This setting encourages participants to elaborate on their approaches, which may lead to the emergence of collective insights that may not surface in one-on-one interviews. The collaborative nature of focus groups creates a fertile environment for identifying common challenges and effective practices, enriching the overall understanding of how agricultural insurance can enhance farmers' financial stability, productivity, and resilience in Bindura. The focus groups will have to allow the farmers to explain in detail their experience with insurance, their perception and also the need to have insurance. This will be necessary for clarity which cannot be shown on the forms provided as questionnaires.

## 3.7 Data Collection Procedure

Data collection for this study will involve several interconnected steps to ensure comprehensive and robust findings. First, trained enumerators will administer structured questionnaires to the selected sample of farmers over a period of seven weeks, facilitating data collection and addressing any queries to enhance understanding and response accuracy. Following the survey

phase, in-depth interviews will be conducted with a purposively selected subset of participants to gather rich qualitative data that delves deeper into individual experiences and perceptions regarding agricultural insurance. Lastly, focus group discussions will be organized before answering the questionnaires, bringing together diverse groups of farmers to foster dialogue and encourage the sharing of personal narratives and collective insights about their experiences with agricultural insurance. This multi-step approach will effectively capture both quantitative data and qualitative narratives, allowing for a nuanced analysis of the impact of agricultural insurance on the financial stability and resilience of smallholder farmers in Matepatepa. The data will be collected on three different occasions and three different locations for flexibility. This timeframe will be flexible for the researchers and the participants as well.

### 3.8 Data Analysis Techniques

Quantitative data analysis will be conducted using Excel. Descriptive statistics will outline demographic trends, while inferential statistics will analyze relationships between insurance uptake and financial outcomes (Field, 2013). Qualitative data will be analyzed using thematic analysis to identify patterns and themes in participants' responses, reflecting their experiences and perspectives (Braun & Clarke, 2006).

### 3.9 Research Validity and Reliability

To ensure validity, the research instruments will undergo a pre-testing phase with a group of 50 farmers before full implementation. This process helps identify ambiguities and potential biases in questions (Bryman, 2016). For reliability, the study will pilot the questionnaire to assess internal consistency and test-retest reliability, ensuring that results are replicable across different instances of data collection (Cortina, 1993). Triangulation of data sources from surveys, interviews, and focus groups will further enhance the credibility of findings (Denzin, 1978).

### 3.10 Ethical Considerations

The study will adhere to ethical research guidelines, including obtaining informed consent from all participants, ensuring full transparency about the study's purpose, and maintaining the confidentiality of participants' information (Beauchamp & Childress, 2013). For example, all participants will be provided with comprehensive information about the study's purpose, methodology, and potential impacts. Consent will be obtained before participation, ensuring that

farmers understand their rights and the nature of their involvement. More so, the researchers will maintain full transparency regarding how data will be used, ensuring participants are aware of the study's objectives and any potential risks involved. This openness helps build trust and encourages honest participation. In addition, Participants' information will be kept confidential. Data will be anonymized to protect the identity of participants, and any reporting will only include aggregated data to prevent individual identification.

## 3.11 Chapter Summary

This chapter presents a comprehensive methodology for evaluating the effectiveness of agricultural insurance in enhancing financial stability, productivity, and resilience among farmers in Matepatepa, Bindura District. Through a mixed-methods approach involving quantitative surveys and qualitative interviews and discussions, the research seeks to provide an in-depth understanding of the impact of agricultural insurance in the context of climate change.

# CHAPTER FOUR: PRESENTATION, INTERPRETATION, ANALYSIS AND DISCUSSION OF FINDINGS

## 4.0 Introduction

This chapter discusses the results of the study on the impact of agricultural insurance on the financial stability, productivity, and general resilience of farmers in Bindura Zimbabwe. After targeting 50 individuals as the sample size, the research managed to gather data from 43 instead due to the timeframe and resource availability. This Chapter starts with the display of demographic characteristics of the study participants, which sets the stage for the analysis. The results are structured around major themes like financial stability, productivity in agriculture, knowledge and perception towards insurance, and problems encountered in its usage. This chapter integrates numerical statistics and non-statistical information to describe the phenomena about agricultural insurance and its role in climate change risk exposure to aid developing relevant policies and practices.

## 4.1 Demographic Characteristics of Participants

This section presents the demographic characteristics of the study participants, including age, gender, farm size, type of farming, and years of experience. Collecting this data using questionnaires enabled the research to have access to these factors are crucial for interpreting how they influence perceptions and adoption of agricultural insurance among farmers in Bindura.

### 4.1.1 Age Distribution

| Age Group | Frequency |
|---|---|
| **25<** | **0** |
| **25 – 34** | **2** |
| **35 – 44** | **8** |
| **45 – 54** | **12** |
| **55 – 64** | **15** |
| **>64** | **6** |
| **Total** | **43** |

*Table 4. 1: Age distribution*

This distribution highlights that the majority of farmers are in the 45-64 age range, suggesting a potentially experienced workforce that may have established farming practices. However, the absence of younger farmers (under 25) raises concerns about the future of agricultural engagement in this community. Understanding these age dynamics is crucial for tailoring agricultural insurance products and outreach efforts to meet the needs of different age groups effectively.

### 4.1.2 Gender Distribution

| Male | Female |
|---|---|
| 40 | 3 |

*Table 4. 2: Gender Distribution*

As indicated by the chart, there is a significant disparity in gender representation, with a predominance of male farmers among the participants. The low number of female participants highlights potential barriers that women may face in agriculture, such as access to resources, land ownership, and social norms. This gender dynamic is essential for developing targeted interventions in agricultural insurance that promote inclusivity and address the specific needs of female farmers in Bindura.

### 4.1.3 Farm size

| Farm Size (Hectares) | Frequency |
|---|---|
| 100< | 5 |
| 100 - 120 | 13 |
| 120 -150 | 22 |
| >150 | 3 |

*Table 4. 3: Firm size distribution*

The above presented data indicates that the majority of farmers operate on farms between 100 and 150 hectares, which indicate a focus on medium-sized farming operations. Understanding farm size is an important aspect for the assessment of the capacity of farmers to adopt agricultural insurance and implement sustainable practices. Larger farms have different resource access and risk management strategies compared to smaller ones, influencing their interactions with agricultural insurance products.

### 4.1.4 Type of farming

| Type of Farming | Frequency |
|---|---|
| Livestock | 23 |
| Crops | 30 |
| Both | 10 |

*Table 4. 4: Types of farming*

This presented data shows a diverse agricultural landscape, with a higher number of participants engaged in crop farming compared to livestock. Analysis of the type of farming is important for tailoring agricultural insurance products, as the risks and needs associated with crop farming may differ significantly from those related to livestock farming and more important for those participating in both kinds of farming. This diversity also highlights the potential for increase of integrated farming practices from just the 10 recorded at the time of the survey, which could benefit from specialized insurance solutions that address the unique challenges faced by each type of farming.

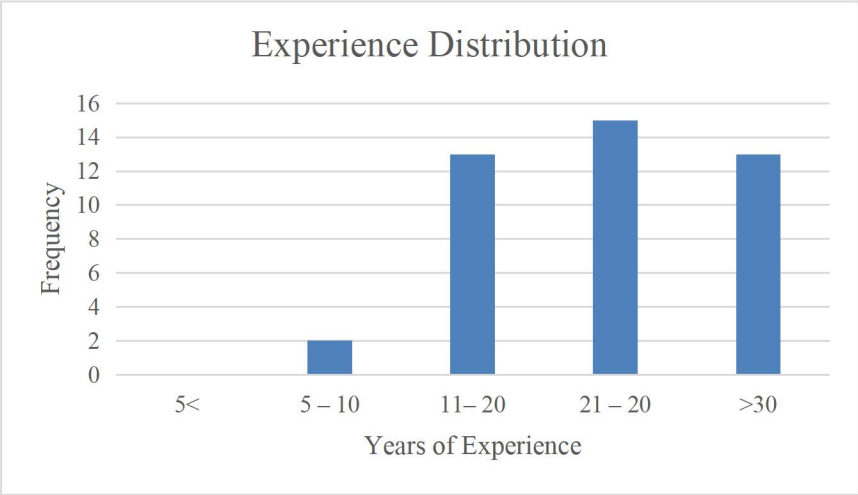


*Figure 4. 1: Farming experince distribution*

### 4.1.5 Years of experience

The majority of farmers have more than 10 years of experience, which clearly tells a lot about the methods they have adapted and how challenging it is for them to consider modern ways for safety. This set of data have a very deep impact on the acceptability of insurance methods as will see in section 4.2. Experiencing a certain way of handling business have created a lot of barrier that avoid most farmers to trust agricultural insurance.

## 4.2 Themes and Findings

In this section, we explore the key themes that emerged from the research findings, organized in alignment with the study's objectives. This approach will answer the research questions holistically. Each theme addresses critical aspects of agricultural insurance, including its impact on financial stability, agricultural productivity, awareness and perception, and the challenges faced in its adoption as well as the impact of climate change briefly. By analyzing both quantitative and qualitative data, this section aims to provide a nuanced understanding of how agricultural insurance affects smallholder farmers in Bindura, particularly in the context of climate change. The data collected will tell how much climate change have impacted productivity and how much insurance have also been perceived by those who have adopted it and those who are yet to.

### 4.2.1 Agricultural Productivity

Here, the data presented explores the impact of climate change on agricultural productivity experienced by the farmers in the region, utilizing data collected through structured questionnaires. The findings highlight significant challenges faced by farmers, particularly regarding crop yields and livestock health. The recorded data shows the average intensity voted by the farmers according to the experienced impact on each aspect. Basing on their records, these percentages were calculated and recorded as intensity to see how impactful have climate change been in the past decade. Their recorded data was used to calculate the mean and the standard deviation as shown on the Excel dataset provided.

Mean values were calculated with the formula;

$$\bar{x} = \frac{\sum_{i=1}^{n} x_i}{n}$$

Where:

$x_i$ *is each individual value in the dataset*

$n$ *the total number of values*

Standard deviation values were calculated with the formula;

$$\sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \mu)^2}$$

Where:

$\sigma =$ *standard deviation*

$N$= *the total number of values*

$x_i$ = *each individual value in the dataset*

$\mu$= *mean*

**Climate Change & Impact on Farming**

| Climate change Impact | Intensity (%) | Standard Deviation |
|---|---|---|
| Reduced crop yields | 50 | 8.42 |
| Livestock losses | 20 | 3.9 |
| Flood damages | 10 | 1.41 |
| Erratic rainfall | 30 | 3.91 |
| Increased drought frequency | 25 | 3.05 |

*Table 4. 5: Climate change impacts*

These findings on the impact of climate change on farming practices in the Bindura region reveals significant challenges for local farmers. Fifty percent reduced crop yields reported, which directly affects their productivity and underscores the need for effective agricultural insurance to mitigate these risks. Farmers experience 30% erratic rainfall, complicating planting and harvesting schedules and further stressing agricultural output. Increased drought frequency, reported to have an average of 25% intense, exacerbates these challenges, indicating a strong demand for tailored insurance solutions. Livestock losses, noted to be 20% on average by farmers, also highlight the importance of comprehensive coverage that addresses both crop and livestock risks. Flood damages effect are only at 10% intensity mostly considering a few cyclones like Idai among others. Overall, these findings align with the study's objectives of assessing the effectiveness of agricultural insurance in enhancing agricultural productivity and resilience among farmers facing climate-related challenges.

### 4.2.2 Agriculture Insurance Awareness

Here, the data assesses the level of awareness and perceptions of agricultural insurance among farmers in the region. Data was gathered through structured questionnaires to evaluate how familiar farmers are with insurance products and their perceived benefits. Understanding these factors is crucial for identifying barriers to adoption and informing strategies to enhance insurance uptake.

**Level of Awareness**

| Levels of awareness | Frequency |
|---|---|

| | |
|---|---|
| **Not at all familiar** | **0** |
| **Slightly familiar** | **10** |
| **Moderately familiar** | **8** |
| **Very familiar** | **25** |

*Table 4. 6: Awareness level*

The data indicates varying levels of awareness of agricultural insurance among farmers in Bindura. While 25 respondents reported being very familiar with insurance products, 10 were slightly familiar and 8 moderately familiar, suggesting a solid base of awareness. However, despite this familiarity, only 10 farmers had active insurance coverage, highlighting a significant gap between awareness and actual adoption. This suggests that barriers such as perceived affordability and understanding of benefits may hinder uptake, indicating a need for targeted educational efforts to improve participation in agricultural insurance.

**Experience with Insurance**

At the point in time this survey was conducted, from a total of 43 farmers, only 10 farmers have active insurance membership. Regardless their level of familiarity, only a few have joined insurance. The data presented below shows how many farmers have joined in the past fifteen years, the numbers were to be recorded to measure rate of adoption. This rate was recorded as number of joining members per very 3 years from the year 2010 up to date.

Firstly, the respondents had to tell if they had joined insurance before of not, the data for that vital information was recorded first followed by the periods they have joined. This data was recorded to ensure that those with experience of using these services can provide further insights which could not be provided by those who haven't. The collected data shows that from the 43

participants, 24 had the experience as recorded on the table today.

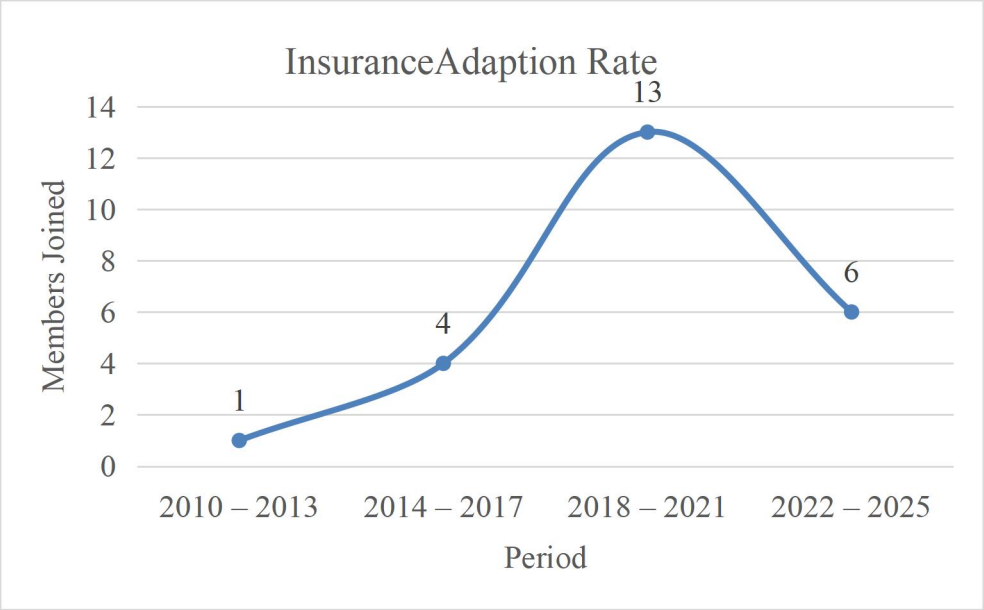


*Figure 4. 2: Insurance Adoption Rate*

The trend of farmers joining agricultural insurance in Bindura reflects notable fluctuations, particularly influenced by significant events. Data shows that from 2010 to 2013, only 1 farmer joined, but this increased to 4 from 2014 to 2017, and then surged to 13 between 2018 and 2021. However, the trend declined sharply in recent years, with only 6 farmers joining from 2022 to 2025.

This decline may be attributed to several factors, including economic instability, high premium costs, and a lack of trust in financial institutions, which were further exacerbated by the pandemic. Farmers may also have developed "insurance fatigue," stemming from challenges in accessing claims or perceived ineffectiveness of insurance products. To reverse this trend, it is crucial to implement strategies that rebuild trust and effectively communicate the benefits of agricultural insurance basing on the feedback from interviews.

### 4.2.3 Financial Stability

**Perceived financial security.**

For those 24 who have had joined insurance at least once, they had to respond to the question according to their experience, “Do you believe agricultural insurance can help protect farmers against climate-related risks?” and the data collected was as follows;

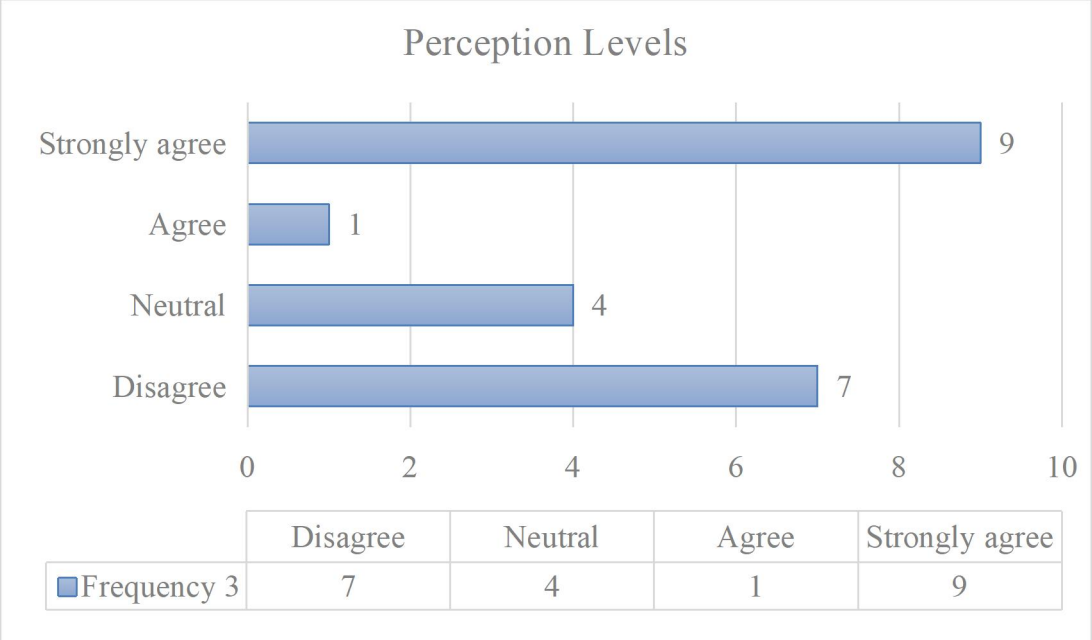


*Figure 4. 3: Perception on Insurance Effectiveness*

The data on perceived financial security among farmers in Bindura indicates varying levels of confidence regarding agricultural insurance. Out of the 24 farmers who have previously joined an insurance scheme, 9 strongly agreed that agricultural insurance can protect against climate-related risks, while 7 disagreed and 4 remained neutral. This suggests that while a majority see potential benefits, a significant number still harbor doubts about its effectiveness.

**Income stability**

For the question, "How much do you believe agricultural insurance can help protect farmers with income stability?", the 24 individuals who have joined before had to respond basing on their experience. The collected data is presented as below;

| Stability (%) | Frequency |
|---|---|
| 0-25 | 4 |
| 25-50 | 7 |
| 50-75 | 5 |
| 75-100 | 8 |

*Table 4. 7: Perception on Income stability*

In terms of income stability, responses reveal that 8 farmers reported stability levels between 75-100%, indicating a strong financial foundation, whereas only 4 farmers experienced stability in the 0-25% range. Despite the promise of financial security through insurance, the low active membership, only 10 out of 43 surveyed, highlights a disconnect between perception and participation. This gap suggests that while many recognize the theoretical benefits of insurance, barriers such as cost, trust, and awareness continue to hinder broader adoption, ultimately affecting overall financial stability among farmers in the region.

### 4.2.4 Challenges, Barriers to Adoption and Suggestion

The 43 participants of this survey had to give their views on the challenges they have encountered that resulted in most of them not being part of it at all or unsubscribe after they have once joined. Common challenges and suggestions from the dataset are listed below. The farmers had their saying recorded as they answered using the local language, Shona during the interviews (in italic)

**Common challenges**

1. High premium costs
2. Limited awareness of insurance products
3. Distrust in insurance companies
4. Economic instability
5. Complexity of insurance terms
6. Inaccessibility of tailored products

**Quotes from Interviews**

1. "I want to insure my crops, but the premiums are just too high for my small farm."
   *"Ndinotodawo kupinda muchirongwa ichi ndichengetenze zvirimwa zvangu asi mibhadharo inodiwa yakandikurisira nekudokoka kwepurazi rangu iri"*
2. "I've heard about insurance, but I don't really understand how it works or if it will actually help me."
   *"Ndinombonzwa nezve inishuwarenzi iyi asi handinzwisisi mashandiro ayo uye kuti ungandibatsira zvirokwadzo here."*

3. "Every time I think about signing up, I remember stories of friends who never got paid when they made a claim."
   *“Pese pandinofunga kupinda muchirongwa ichi ndinorangarira umwe murimi anga ari machiri akasabhadhara paada kubatsirwa neinishuwarenzi yake.”*
4. "With the economy changing so fast, it feels risky to spend money on something I’m not sure will benefit me."
   *“Nemamiriro eikonomi yedu iyi isina kugadzikana, ndinoona zvine mukana wenjodzi wakakura kupinda chirongwa chinoda mari ichi ndisina chokwadi chekuti ndinobatsirika.”*
5. "The insurance products I see don’t fit my farming situation; I need something more specific for my crops."
   *“Inishuwarenzi dzandiri kuona hadzinyatsoenderana nezvirimwa zvangu, ndinodawo chirongwa chakanangana neni.”*

**Suggestions**

1. Premium subsidies
2. Awareness campaigns
3. Simplified products
4. Trust-building initiatives

**Quotes from Interviews**

1. "I’d feel more confident if insurance companies offered clearer explanations of how they work."
   *“Ndingasununguka kubatana nezvirongwa izvi kana ivo vemakambani einishuwarenzi vakatipa zvizere maererano rehurongwa hwavo.”*
2. "Hearing from other farmers who got paid after a loss would make me trust insurance more."
   *“Ndikambonzwa vamwe varimi vanoti vakabhadharwa mushure mekupindana nenjodzi ndingavimbawo nezvirongwa zveinishuwarenzi.”*
3. "If the insurance products were easier to understand, I’d be more willing to sign up."
   *“Dei zvirongwa zvavo zviri nyore kunzwisisa, ndingawedzera kusununguka kubatana nawo.”*

4. "Regular workshops about insurance benefits would help us all feel more informed."
   *"Misangano yezvidzidzo ikati wandei tinobatsirika nekuwedzera ruzivo."*
5. "Having someone to talk to when I have questions would make me more comfortable with the whole process."
   *"Pakava nevanotaura nesu kana tine mibvunzo zvinotiitira nyore nehurongwa hwese."*

## 4.4 Group Discussions

As part of the data collection process, participants were to have a group discussion with the researchers. The questions on the questionnaire were discussed and the main 3 aspects were;

1. Experience with insurance
2. Effective of the awareness programs
3. Why there in need for insurance

These main aspects were discussed and the most relevant responses were recorded below. This was inline with the data collection procedures with the aim to get the views of from the farmers themselves in a transparent manner. The participants had to give their opinions as below. A summary of what they said is displayed first then their main points of view following as they were said in the traditional language, Shona.

### 4.4.1 Experience with Insurance

The discussions done provided view from the experiences the farmers with encountering agriculture insurance.

P1: We do not have enough knowledge about this agricultural Insurance

*"Hatinyatsozive mashandiro anoita inishuwarenzi yevarimi iyi. Ndinogara ndichinzwa nezvayo asi handisati ndawana ruzivo rwakakwani maererano nekuti inoshanda nekukubatsira sei uye unokwanisa kuitora sei."*

P3: There are delays when you claim for your insurance cover

*"Pandakarasikirwa nezvirimwa zvangu ndakatora mazuva akawanda ndichifambira kuti ndizibatsirwa. Zvakandishungurudza nekuti ndaida kuti ndibatsirwe ndiwane zvekushandisa kudyarurura nenguva."*

P4: Inflation rates affect the covering package

*"Nekusagadzikana kwemari kuriko uku, mari yaunobhadhara kuinishuwarenzi inopera simba zvekupedzisira isingachatombokwani kukubatsira kana wawirwa nedambudziko."*

P7: They Always Change their terms.

*"Nguva nenguva mainishuwarenzi aya anochinja chimera mitemo nemirairo saka unopedzisira wavhiringika kuti wobhadhara sei uye unozobatsirwawo sei."*

**4.4.2 Effective of the Awareness Programs**

P:10 We are not fully informed

*"Dei paiwedzerwa zvirongwa nemisangano kana nawekishopu ekuti tidzidziswe tiwane ruzivo rwakakwana nekuti unopedzisira wangopinda mazviri usina ruzivo rwakakwana."*

P15: It seems complicated

*"Kuti unzwisise mashandiro anoita inishuwarenzi zvinoti netsei. Manyorero anoitwa patinomboverenga maererano ne inishuwarenzi hatimanzwisisi. Zvinotoda uchitsanangurirwa nemutauro unonzwisisika."*

P43: The insurance companies have no stable policies

*"Mashandiro emainishuwarenzi anoshanduka nguva nenguva zvekuti paunoenda uchida kubatsirwa, zvamwakawirirana kana zvamakaziviswa maererano nemashandiro emainishuwarenzi pakutanga zvinenge zvisirizvo zvavanenge vakushanda nazvo mukufamba kwenguva.*

P39: No enough information

*"Kunyangwe mukubvunza vanhu vemunharaunda, havana ruzivo rwakakwana. Mumwe nemumwe anotaura zvakasiyana. Zvinoreva kuti pakudzidziswa kwatinoita hatisi kupiwa tsanagudzo dzizere."*

**4.4.3 Why there in need for Insurance**

P42: I want to cover my family in case something happens to my crops and livestock.

*"Nekushanduka kuri kuita mamiriro ekunze nekusagadzikana kwaita mwaka uku ndinozivei kana ndikasakwanisa kuchengeta zvipfuyo zvangu zvakanaka kana kusawana goho rakakwana? Ndinodawo inishuwarenzi kuitira kana pane zvingandiwira ndiwane kubatsirika."*

P24: The rains are now unstable. I need insurance to protect myself from starvation.

*"Mvura haichanyatsonaya zvinetsarukano. Kana kukasanaya zvakanaka ndinotopindirwa nenzara mumba. Inishuwarenzi inotodiwa kuitira ndikasakohwa ndisafe nenzara."*

P29: Climate change has affected livestock breeding. I need insurance to cover me in time of crisis to buy supplements.

*"Kushanduka kwemwaka kwakonzera zviti netsei kuchengeta zvipfuwo nekuti chikafu hachichawanike nyore kuti uchengete zvipfuwo zvakawanda. Mamwe makore zvipfuwo zvinotoomwerwa. Zvaidawo ndine inishuwarenzi inondigamha panguva dzekushupika ndiwane kutenga chikafu chekuwedzera chezvipfuwo."*

P36: If I do not produce enough from the field, I need to be covered by insurance so that I can survive to another season.

*"Kana ndikasawana gohwo rakakwana mumunda wangu, inishuwarenzi inodiwa kudzibatsira ndikwanise kunobata umwe mwaka."*

## 4.5 Chapter Summary

Chapter 4 provided a comprehensive analysis of the impact of agricultural insurance on farmers in Bindura, revealing critical insights into their demographic characteristics and the challenges they face in adopting insurance. Key findings highlighted the disparity between high awareness and low participation rates, driven by barriers such as high premiums, complexity, and distrust in insurers. Understanding factors like age, gender, and farm size is essential for tailoring insurance products to meet the specific needs of smallholder farmers. These insights will inform the conclusions and recommendations in Chapter 5, guiding strategies to enhance the effectiveness and accessibility of agricultural insurance, ultimately fostering greater resilience and productivity in Zimbabwe's agricultural sector.

# CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.0 Introduction

In this chapter, we synthesize the findings from the research conducted on the effectiveness of agricultural insurance in enhancing financial stability, productivity, and resilience among farmers in Bindura, Zimbabwe in response to climate change. This final chapter will summarize key insights derived from the data analysis, draw conclusions regarding the overall impact of agricultural insurance, and propose actionable recommendations aimed at improving its adoption and effectiveness. By addressing the identified challenges and barriers, this chapter aims to provide a roadmap for stakeholders involved in agricultural insurance, policy formulation, and the broader agricultural sector in Zimbabwe.

## 5.1 Summary of Findings

### 5.1.1 Demographic Characteristics:

- The majority of participants were middle-aged males, predominantly aged between 45 and 64 years.
- There was a significant gender disparity, with only 3 female participants out of 43, indicating potential barriers for women in agriculture.
- Most farmers operated medium-sized farms (100-150 hectares), which influences their capacity to adopt agricultural insurance.

### 5.1.2 Impact of Climate Change:

- Fifty percent of farmers reported reduced crop yields due to climate change, directly affecting their productivity and financial stability.
- Increased drought frequency was noted by 25% of respondents, complicating farming operations.
- Erratic rainfall patterns affected 30% of participants, disrupting planting and harvesting schedules.
- Livestock losses were also reported by 20% of farmers, highlighting the need for comprehensive insurance coverage.

### 5.1.3 Awareness and Adoption:

- Awareness of agricultural insurance was relatively high, with 25 respondents stating they were very familiar with insurance products.
- Despite this awareness, only 10 out of 43 participants actively held insurance, indicating a substantial gap between awareness and actual adoption.

### 5.1.4 Perceived Financial Stability:

- Among those who had previously used insurance, perceptions of financial security varied.
- While 9 farmers strongly believed that insurance could protect against climate-related risks, skepticism remained among others.
- Income stability responses varied, with some farmers reporting high stability (75-100%) while others faced significant instability (0-25%).

### 5.1.5 Challenges to Adoption:

- Major barriers to adopting agricultural insurance included high premium costs, limited understanding of insurance products, distrust in financial institutions, and the complexity of insurance terms.
- These challenges hindered broader participation and uptake of insurance among smallholder farmers.

## 5.2 Conclusions

1. Demographic Insights: The demographic profile reveals a predominantly middle-aged male farming community, raising concerns about the future of agricultural engagement, particularly with the low representation of younger farmers and women. This suggests a need for targeted outreach and insurance products that cater to the specific needs of different age and gender groups.
2. Climate Vulnerability: The significant impact of climate change on agricultural productivity underscores the urgent need for effective insurance solutions. The challenges faced by farmers, including reduced crop yields and increased drought frequency, highlight the critical role that agricultural insurance can play in mitigating these risks.
3. Awareness vs. Adoption: While there is a relatively high level of awareness regarding agricultural insurance, the low adoption rates indicate that merely increasing awareness is

insufficient. There are substantial barriers preventing farmers from engaging with insurance options, which must be addressed to enhance uptake.

4. Perceptions of Financial Security: Farmers' perceptions of financial security in relation to insurance are mixed. Although some recognize the potential benefits of insurance, skepticism and distrust remain significant obstacles. This disconnect illustrates the need for initiatives that build trust and demonstrate the effectiveness of insurance as a risk management tool.
5. Barriers to Adoption: Identifying and tackling the barriers to adoption, such as high costs, limited understanding, and complexity of insurance terms, is essential for enhancing insurance uptake among smallholder farmers. Addressing these challenges will be crucial for fostering broader participation in agricultural insurance programs.

## 5.5. Recommendations

1. Develop a comprehensive policy framework that supports agricultural insurance as a key component of climate adaptation strategies, including premium subsidies and regulatory support.
2. Encourage collaboration between government agencies, insurance companies, and NGOs to create awareness and expand access to agricultural insurance through joint initiatives.
3. Incorporate local indigenous knowledge and practices into the design of insurance products and risk management strategies to enhance relevance and acceptance among farmers.
4. Implement educational programs that improve financial literacy among farmers, empowering them to make informed decisions about insurance and risk management.
5. Leverage technology to improve access to agricultural insurance, using mobile platforms and digital tools for enrollment and claims processes.
6. Establish mechanisms for ongoing research and evaluation of agricultural insurance programs to identify challenges and assess the effectiveness of existing products.

## 5.6. Areas for Future Study

1. Impact of Climate Change on Insurance Uptake
2. Longitudinal Studies on Insurance Effectiveness
3. Comparative Analysis with Other Regions

4. Gender Dynamics in Insurance Adoption
5. Evaluation of Technology in Insurance Delivery
6. Assessment of Policy Implementation

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# APPENDICES

## BINDURA UNIVERSITY OF SCIENCE EDUCATION


### DEPARTMENT OF ENVIRONMENTAL SCIENCE

## QUESTIONNAIRE

**Study Brief & Background**

Dear Participant,

This questionnaire is part of a research study aimed at evaluating the role and effectiveness of agricultural insurance in enhancing financial stability, productivity, and resilience against climate change among smallholder farmers in Zimbabwe, particularly in Matepatepa, Bindura District. Climate variability, including droughts, floods, and unpredictable weather patterns, poses significant risks to farmers' livelihoods. Agricultural insurance is seen as a potential tool to mitigate these risks and promote sustainable farming practices.

Your responses will provide valuable insights into farmers' perceptions, experiences, and barriers related to agricultural insurance. The information collected will be kept confidential and used solely for academic and policy development purposes.

**Researcher's Details**

**Name:** Duke Tanyaradzwa Narwo

**University:** Bindura University of Science Education

**Program:** Master of Science in Occupational Health, Safety, and Environmental Management

**Participant Information** *(Please fill in)*

| | |
|---|---|
| **Name:** | **_____** |
| **Age:** | **_____ Years** |
| **Gender:** | **☐ Male ☐ Female** |
| **Farm Size:** | **_____ hectares** |
| **Type of Farming:** | **☐ Crop ☐ Livestock ☐ Both** |
| **Years of Farming Experience:** | **_____ years** |
| **Have you ever used agricultural insurance?** | **☐ Yes ☐ No** |

## Section 1: Awareness & Perceptions of Agricultural Insurance

1. Have you ever received information or training about agricultural insurance?
   ☐Yes
   ☐ No

2. How familiar are you with agricultural insurance products?
   ☐Not at all familiar
   ☐Slightly familiar
   ☐Moderately familiar
   ☐Very familiar

## Section 2: Experience & Adoption of Agricultural Insurance

3. Have you purchased or been covered by agricultural insurance?
   ☐ Yes
   ☐ No
4. If no, what are the main reasons? (Select all that apply)
   ☐ Cost of premiums is high
   ☐ Lack of awareness or information
   ☐ Distrust of insurers
   ☐ Belief that insurance isn't necessary
   ☐ Lack of government support/subsidy
   ☐ Other reasons:……
5. If yes, which period have you joined? (Tick in the corresponding box.)

| Period Joined | |
|---|---|

| | |
|---|---|
| 2010 – 2013 | |
| 2014 – 2017 | |
| 2018 – 2021 | |
| 2022 – 2025 | |

6. If you have joined before, how much do you believe agricultural insurance can help protect farmers with income stability? (Tick inside the corresponding box).

| Stability (%) | |
|---|---|
| 0-25 | |
| 25-50 | |
| 50-75 | |
| 75-100 | |

7. Do you believe agricultural insurance can help protect farmers against climate-related risks?

   ☐ Strongly disagree

   ☐ Disagree

   ☐ Neutral

   ☐ Agree

   ☐ Strongly agree

8. What challenges do you face or anticipate in accessing insurance? (Open-ended)

……
……
……
……
……
……

**Section 3: Climate Change & Impact on Farming**

9. How much has climate change affected your farming practices? (Select the corresponding intensity percentage)

| **Climate change Impact** | **Intensity (%)** |
|---|---|
| Reduced crop yields | |
| Livestock losses | |
| Flood damages | |
| Erratic rainfall | |
| Increased drought frequency | |

**Section 4: Challenges & Improvement Strategies**

10. What challenges have you faced that have been stopping you from purchasing insurance services?

……
……
……

11. What features or services would make you more likely to purchase insurance? *(Open-ended suggestions)*

……
……
……

**Final Remarks**

Thank you for your time and valuable input! Your responses will contribute to efforts aimed at building resilient agricultural systems in Zimbabwe.

**Would you like to receive a summary of the research findings?**
**(Providing your contact info is optional) WhatsApp Number: _____**