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THE ROLE OF ACCOUNTING IN MITIGATING THE EFFECTS/ IMPACTS OF CLIMATIC CHANGES ON AGRIBUSINESS PERFORMANCE (FACT MUTARE)

BY

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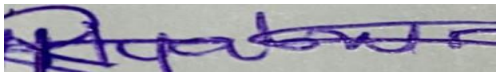
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The undersigned certify that they read and recommended to the Bindura University of Science Education for acceptance, a research project entitled “The role of accounting in mitigating the effects/ impacts of climatic changes on agribusiness performance, a case study of FACT Mutare”, submitted in Partial fulfilment of the requirements of a Bachelor of Accountancy Honours Degree.

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I certify that this dissertation meets the preparation guidelines as presented in the faculty guidelines for dissertations.

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I certify to the best of my knowledge that the procedure has been followed and the preparation criteria have been met for the dissertation.

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DEDICATIONS

I dedicate this dissertation to Mr. and Mrs. Nyabvure, whose unwavering support and guidance have been the foundation of my academic journey. Their unconditional love and encouragement have sustained me through the ups and downs of this process. To my brothers, whose friendship and camaraderie have been a constant source of joy and motivation and to my family, whose kindness and generosity have enriched my life in countless ways. May this work be a testament to the love and inspiration that has fueled my pursuit of knowledge?

ABSRACT

The study sought to evaluate the significance of accounting in addressing the impact of climate change on the financial performance of agribusinesses in Nyamatowa Village, Mutare District, Zimbabwe. Various climatic issues like unpredictable rainfall patterns, drought, flooding and high costs of inputs have been noted to impact negatively on agricultural productivity and performance of agribusinesses. The study employed a qualitative and quantitative research methodology that involved administering questionnaires, conducting interviews and analyzing various documents.

Data was collected through administering questionnaires to 47 individuals and conducting interviews with 15 key respondents, supported by analysis of various financial statements of the business unit within the village between 2020 and 2023. The results indicated that climate change had a significant negative impact on productivity levels and input cost stability, leading to budget differences. Additionally, there was limited use of climate

accounting, flexible budgeting, risk disclosure and sustainability reporting despite its significance.

The statistical results demonstrated a negative correlation between accounting practice and financial disturbances associated with climate, meaning that accounting practice can help diminish financial disturbance. Therefore, the research comes to the conclusion that accounting practice plays an essential role in making agribusiness resistant to climate change, recommending the use of climate-related accounting practices.

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CHAPTER 1

1.0 INTRODUCTION

This chapter serves as an introduction to the research study, setting up the context under which the study will be conducted to explore the importance of accounting in addressing the financial impact of climate change on agribusiness performance. In a world where agricultural businesses face more challenging environmental conditions than ever before, the financial impact of such conditions cannot go unaddressed and requires appropriate analysis and action. As an academic field dedicated to identifying, measuring, and communicating financial information, accounting plays a crucial role in this response.

Beginning with a broad overview of the problem in terms of its global, continental, regional, national, and local implications, this chapter makes use of various sources of empirical evidence in order to illustrate the magnitude and extent of the financial impact of climate change in agricultural operations. Following the statement of the research problem, the chapter will present its objectives and research questions, as well as its significance to practice and scholarship. Lastly, the geographical and chronological boundaries of the research are specified, along with the limitations of its methodology.

This research draws on the operational practices of the Village Business Unit of Nyamatowa Village located in the Mutare district of Zimbabwe to provide an empirical basis that examines the capacity of accounting to contribute to agribusiness climate change resilience. Through a case study design of a rural enterprise from 2020 to 2023, this

research provides an evidence base that supplements the largely macro-based approaches seen in the literature.

1.1 Background of the study

Climate change refers to the gradual changes in temperature and precipitation around the globe mainly due to anthropogenic factors such as deforestation and burning of fossil fuels. According to the IPCC (2021), global mean temperatures are currently approximately 1.1°C above pre-industrial levels which pose tremendous and wide-ranging ramifications for agricultural practices and rural economies globally. One of the most critical issues facing our time, climate change is presenting increasing threats to food production and the sustainability of the agricultural sector and rural economies around the world (FAO, 2013).

On a global scale, the intensifying impacts of climate change on the form of droughts, floods and heat waves have created challenges to existing agricultural systems. Based on empirical evidence reported in the Journal of Agribusiness in Developing and Emerging Economies, global agricultural outputs have been negatively affected to the tune of about one to five percent annually due to climate-induced disruptions (Zhllima, Xhoxhi, Imami and Skreli, 2025). Such disruptions present additional economic challenges to agribusiness through increasing costs of production and unreliable supplies.

Continental losses arising from climate change include those suffered in Africa and Europe. The repeated droughts in countries such as Ethiopia and Kenya have resulted in low cereal production, losing up to 30% while flood incidences in Nigeria and Ghana have caused destruction of farmlands and disruption of rural infrastructure (Kumbrottil Sundaran 2024, Natural hazards and Earth System Sciences). There have been incidences of water shortages and flash floods in European agribusinesses dealing in wine, dairy and cereal production causing high insurance costs and uncertain outputs. This is in contrast with European Union agribusinesses which have been helped by structured adaptation measures like the Green

Deal and the Common Agricultural Policy while their counterparts in Africa do not benefit from similar institutional arrangements.

Regional climatic changes that alter agricultural activities include changes in rainfall patterns and monsoons that alter planting and harvesting times of vital crops such as rice, wheat and maize among others in South and Southeast Asia (Kumari, Chakraborty and Chakravarathi 2024, Theoretical and Applied Climatology). Other changes include the shortened periods of rainfall observed in East African countries like Tanzania and Uganda impacting negatively on coffee and maize harvests.

As a result of climate change at the national level, the agricultural sector in Zimbabwe is facing numerous challenges. For instance, according to Environmental Management Agency (2010) and FAO (2006), erratic rains and prolonged droughts have resulted in massive crop failures in the cultivation of maize and tobacco leading to higher expenses in irrigation as well as lower profits. In addition to the above, climate change at the macroeconomic level poses challenges such as reduced contributions of the sector to GDP, loss of foreign earnings, and unemployment within rural areas.

In the specific case of the village level, the example of Nyamatowa Village in Mutare will suffice. According to Village Business Units internal production and financial reports between 2020-2023, there have been decreases in productive outputs by 20% as a result of erratic rains, drought, and floods. Fluctuations in input prices have ranged from thirty percent resulting in variances within operational budgets totaling approximately eighteen percent. On the other hand, emergency procurement has led to a reduction of about ten percent in the available operational budget.

Operational budgets have reduced approximately 10% to include emergency purchases of materials, pushing the Village Business Unit's capacity to invest and grow. On top of this,

weather and climate related uncertainty/immediacy has driven anxiety and eroded confidence from stakeholders, threatening the sustainability of agricultural enterprises in a fashion that will continue indefinitely. However, despite the many studies regarding the operational impacts of climate changes in agribusinesses, there is inadequate information regarding the application of accounting methods in order to offset the resulting financial impacts, especially in rural areas of Zimbabwe. Indeed, the use of environmental cost accounting methods, management accounting, risk disclosure and sustainability reporting are some effective measures that could be used in addressing climate impacts financially. The current research, therefore, attempts to determine the degree to which accounting can help agribusinesses in Nyamatowa Village mitigate their financial impact due to climate change.

At a smaller level, the challenges posed by the above-mentioned constraints are illustrated in the operations of Village Business Unit at Nyamatowa village. In the last three years, the productive capacity has declined by about 22%; input costs have varied over 30%; and agency/fund assisted unplanned purchases resulted in variances in budgets by almost 18% (Village Business Unit, Internal Production and Financial Reports, 2023). Customer satisfaction has been greatly affected as about 12% of total customers moved away from the brand. Market share has dropped by approximately 10-15%; while shareholder value dropped by 8%. Operational budgets have reduced approximately 10% to include emergency purchases of materials, pushing the Village Business Unit's capacity to invest and grow. On top of this, weather and climate related uncertainty/immediacy has driven anxiety and eroded confidence from stakeholders, threatening the sustainability of agricultural enterprises in a fashion that will continue indefinitely.

1.2 Problem statement

The climate situation for agriculture firms in Zimbabwe continues to get worse due to erratic rains, droughts and adverse weather conditions. The climatic challenges have implications on the financial side in terms of productivity problems, higher costs of

production and budget variances. Despite the challenges, there is little empirical data on the way in which agribusinesses account for.

In terms of national figures, Zimbabwe's agricultural sector is witnessing decreased contribution to GDP and rising costs of inputs due mainly to climate productivity shocks noted by Environmental Management Agency (2010) and Food and Agriculture Organisation (FAO, 2006). In addition to these factors are limited access to financial services and lack of risk management. Locally speaking, the village business unit operating within Nyamatowa village, Mutare, experienced some serious financial turbulence during the past three years due to climate change issues that included decreased productivity levels by twenty-two percent, fluctuating input prices up to thirty percent and budget variances by eighteen percent (Village Business Unit, Internal Production and Financial Reports 2023).

The main issue that this paper attempts to resolve is the lack of accounting systems that incorporate the impact of climate change on the financial position of small rural agribusinesses in such a manner that they can assess accurately any losses as a result of climate change, formulate contingency financial plans, and inform investors of possible risks associated with finances. This makes agribusinesses vulnerable to climate impacts, reduces the financial resilience of such enterprises, and restricts the amount of adaptive financial capital available to help make informed decisions in an effort to ensure survival in the ever-changing climatic environment.

1.3 Research objectives

The primary goal of this research study is to investigate the role of accounting in mitigating the financial effects of climate change on agribusiness performance in Nyamatowa Village Mutare, Zimbabwe. The following are the goals that the researcher intended to accomplish:

1. To examine how accounting practices can be applied to identify, monitor and manage the financial risks of climate change in agricultural businesses
2. To analyze how climate-related changes influence cost fluctuations and budget variances in agribusiness operations.
3. To assess the extent to which climate integrated accounting systems contribute to improved financial performance and operational stability.
4. To explore how sustainability reporting and risk disclosure practices support stakeholder confidence and long term agribusiness resilience.

1.4 Research questions

2 How do climate related disruptions affect the financial performance and operational stability of agricultural businesses in Nyamatowa Village?

3 In what ways do climate induce changes influence input cost volatility and budget variances in agribusiness operations?

4 To what extend can accounting tools including environmental accounting, management accounting and sustainability reporting mitigate the financial effects of climate change on agribusiness performance?

5 H ow do accounting based risk disclosure practices influence stakeholder confidence and the long-term sustainability of agribusiness in climate vulnerable contexts?

1.5 Significant of the study

The study's significance lies in its contribution of empirical findings about the role accounting plays in building the financial resilience of small-scale rural agribusinesses in times of climatic changes. Given that the current study was conducted in the specific context of Nyamatowa Village Mutare, the findings provide locally relevant and grounded information on the use and efficiency of accounting tools for climate integration in a developing country's environment.

Firstly, the findings of the research are useful for agribusiness professionals in the way that they inform about accounting measures best used when coping with climate-related financial risks, such as flexible budgeting, cost management, and risk disclosure. The findings also indicate the need to develop adequate policies aimed at creating the required accounting environment. Finally, from the standpoint of academic researchers, the findings are valuable as they fill gaps existing in the literature on the topic of accounting climate interaction in rural agribusiness environment in Zimbabwe.

1.6 Assumptions

Several important assumptions govern the conduct of this research, including how its findings should be interpreted. The first assumption made for this study is that the answers provided by the respondents who included managers of the agribusinesses, farmers, accountants, extension agents and members of the village councils were honest and truthful. The second assumption is that the financial statements and production reports of the Village Business Unit for the years 2020 to 2023 are fairly representative of the activities and financial performance of the agribusiness during those years despite the drawbacks of informal records keeping systems employed in such operations.

It is also assumed that the climate disruptions experienced in Nyamatowa village are representative of the climate problems faced by similar rural agribusiness ventures in the district of Mutare. Fourth, it is assumed that there are no other underlying factors that can confound the relationship between accounting practice and the level of financial performance, which makes the observed correlation and regression significant in a practical sense. Fifth, it is assumed that the concepts of stakeholder theory, legitimacy theory, and contingency theory serve as a valid conceptual foundation in explaining the role played by accounting practices in facilitating the climate-related financial impacts to the village agribusiness level. These assumptions are seen as valid for this study.

1.7 Delimitations

The research has geographic limitations since it will only be carried out in Nyamatowa Village in Mutare District of Zimbabwe with a focus being on the village business unit and all the agricultural enterprises existing in that area. As for the time limitation, the research will cover the years from 2020 to 2023 due to the availability of documentation relating to the financials of the Village Business Unit. The research will focus on the impact of climate change on the financial aspects of agribusiness and how accounting can mitigate those impacts.

1.8 Limitations

The study encountered the following limitations which were managed as follows:

1. Limited geographical scope

The study was confined to Nyamatowa Village in Mutare District, which may limit the generalisation of the findings to other villages in Zimbabwe and the wider SADC region. This limitation was managed by clearly defining the study as a case study of Nyamatowa Village and focusing the conclusions on the specific context studied rather than generalising the findings to all agribusinesses.

2. Inconsistency and validity of internal financial records

The study relied partly on internal financial and production records of the Village Business Unit, which were affected by the informal accounting system used by the business. This was addressed by triangulating information from documentary analysis with data obtained through questionnaires and interviews. Comparing information from these different sources helped to improve the credibility and validity of the findings.

3. Recall bias among respondents

Some respondents were required to provide information about climate related events and accounting practices that occurred during the study period, creating the possibility of

inaccurate recollection. The researcher reduced this limitation by supporting respondents' responses with available financial and production documents covering the period 2020–2023. Interviews were also conducted with respondents who had direct knowledge and experience of the operations under study.

4. Rapid changes in climatic conditions

Climate conditions can change rapidly, meaning that some findings may become less applicable as climatic conditions change over time. This limitation was managed by focusing the study on the specific period from 2020 to 2023 and analysing documented climate related financial effects within that period. The findings were therefore interpreted in relation to the study period and the specific circumstances of Nyamatowa Village.

5. Limited availability of formal accounting information

The use of informal accounting practices within the Village Business Unit limited the availability of comprehensive financial information. The researcher addressed this challenge by using multiple sources of evidence, including financial statements, production reports, questionnaires and interviews to obtain sufficient information for analysing the relationship between climate change, accounting practices and agribusiness performance.

1.9 Defination of terms

Climate Change: Refers to a long-term change in temperature, rainfall and other weather patterns. Besides typical changes, it also covers the increase in the frequency of extreme events like droughts and floods. More To be exact, it refers to climatic disruptions that affect agribusiness operations in Nyamatowa Village.

Agribusiness: A term used to describe a whole range of business activities starting from farming to production of agricultural products and also including related processing, supply and marketing of those goods. Nyamatowa Village Business Unit and the enterprises related to it are the ones concerned here.

Agribusiness performance: Is a measure of how well an agribusiness is doing financially and operationally. The study projects agribusiness performance by using several trade indicators like productivity, input costs, budget variance, market share, customer satisfaction and shareholder value.

Environmental/Climate Cost Accounting: Includes not merely the recognition of costs and losses but also their capture in accounting which relate specifically to environment and climate events like crop failures due to droughts or damages to infrastructures because of floods.

Flexible Budgeting: Is a budgeting method which permits the adjustment of planned figures as per the changing situations like when additional costs arise from drought, flood or input price shocks.

Budget variance: Is the money difference between what a business expected to spend/earn and what it actually spent/earned, which is typically a good measure to reflect the financial impact of climate-related disruptions.

Risk Disclosure: Is the method of making disclosure of information about financial risks, including those related to climate, to stakeholders such as financiers, community members and other interested parties.

Sustainability reporting: It is not merely reporting on the environmental, social and economic impacts of the business activities. Besides this, it is also about how the business impacts and gets impacted by the environmental factors like climate change.

Village Business Unit (VBU): Is the name of the agribusiness entity that is a collective organisation in Nyamatowa Village and was the case study unit of analysis for this research from 2020 to 2023 period.

1.10 Chapter Summary

The present chapter has laid down the foundation upon which the study is based by analyzing the effects that climate change has on financial performance in the agribusiness industry at different levels of analysis. Starting from the globally acknowledged evidence on decline in the productive capacity of agriculture and rising prices of inputs, the chapter took us on an analytical journey to analyze the effects of climate change in Africa, southern Africa, Zimbabwe, and finally ended at Nyamatowa Village, Mutare. The internal financial records of the Village Business Unit revealed a decline in production capacity by 22 percent, rising input prices by 30 percent, and budget variations by about 18 percent between 2020 and 2023.

In the problem statement, the absence of an organized accounting system that incorporates climate change was recognized as the fundamental gap that hinders the ability of rural agribusinesses to quantify their losses, make contingency plans and convey financial risks to interested parties. The research objectives that address the importance of environmental accounting, management accounting, risk disclosures and sustainability reporting in minimizing the financial impact of climate change are clearly spelled out in the form of four research objectives and accompanying questions.

Additionally, the importance of the study for agribusiness managers, policymakers, and academics is described, along with the geographical and time dimensions. The limitations of the methodology associated with using only one village and company documentation

were pointed out honestly in the previous chapter. The next chapter discusses the relevant literature.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

The following section provides a review of the literature that has been documented concerning the influence of accounting in addressing the financial impact of climate change on agribusiness performance. This section provides an analysis of the various theoretical approaches, empirical evidence and conceptual frameworks on accounting approaches that assist agribusiness in dealing with the financial implications of climate change, such as adverse weather conditions, environmental risks and resource scarcity**.**

The literature review encompasses both theoretical foundations of the concept in question and the contemporary evidence that has been generated through empirical studies. The literature review will cover various aspects of the subject matter, including the theoretical framework on which this study is based, empirical evidence on climate impacts on agribusiness performance, the role of accounting in dealing with such impacts, identified literature gaps and the conceptual framework for this study.

2.1 Theoretical Framework

2.1.1 Stakeholder Theory

Stakeholder Theory, developed by R. Edward Freeman in 1984, states that the sustainability of success of organizations is based on their ability to create value among all their stakeholders in addition to the value that is created for shareholders alone. The theory claims that firms have to be responsible to a wide range of stakeholders who include

investors, workers, consumers, regulatory bodies, communities, and suppliers, who all have interests in the activities and performance of organisations.

Stakeholder theory helps to understand why agribusiness firms affected by climate-based financial pressures should develop accounting processes. Climate changes impact agribusiness stakeholders in different ways; for instance, farmers suffer from production losses, consumers experience shortages in the supply of commodities and increased prices. Accounting helps agribusiness firms show their responsibility to different stakeholders through environmental accounting and sustainability reports.

There is a continued consensus by scholars on the appropriateness of stakeholder theory as an approach to analysing corporate environmental disclosures and performance in relation to sustainable development. In extending the initial stakeholder theory proposition, Freeman & Evans (1990) argued that companies capable of nurturing their relationships with stakeholders will possess increased levels of strategic endurance. With regard to agribusinesses, climate risk disclosure, environmental costing, and sustainability reporting are vital both for compliance reasons and strategically to ensure sustainability and performance of the company in the long run.

What makes stakeholder theory pertinent to this research includes its ability to explain why accounting plays a crucial role in the relationship between climate risk management and performance. This is because accounting ensures that adequate financial information on climate related risks and costs is communicated, thereby helping in retaining stakeholder support in climate financing and continued operation under environmental challenges.

2.1.2 Legitimacy Theory

Informed by the landmark works of Suchman (1995) and the foundational theories of Lindblom (1994), legitimacy theory posits that organizations operate within an implicit contract with society, and as such must ensure that their actions align with the social norms. Organizational viability in this case requires continued alignment between the normative structure of organizations and the broader society. Should the organization's actions be seen as being out of touch with society, the organization's legitimacy may suffer, resulting in lack of support from the public, regulators and investors.

On matters relating to climate change, agribusiness companies face increasing scrutiny concerning their environmental impacts, resource usage and role in ecosystem degradation. Legitimacy theory highlights the role of accounting disclosures, comprising environmental accounts, carbon accounting statements and other forms of sustainability accounting in addressing these challenges by maintaining legitimacy. Publishing reliable climate-related financial accounts is a way of demonstrating to regulators, investors and members of the community that the company is behaving responsibly.

Deegan (2002) offered support to this concept through empirical evidence whereby he showed that organizations with reputational concerns resulting from environmental occurrences have a tendency to increase their disclosure levels of social and environmental information significantly, a situation that indicates that these organizations are actively working towards legitimacy restoration. To the agribusinesses operating in Nyamatowa Village, where reputation and community trust are highly intertwined, legitimacy management using accounting is especially vital.

2.1.3 Contingency Theory

Based on the early contributions in the literature of management accounting from Gordon & Miller (1976) followed by the work of Otley (1980), the contingency theory posits that no accounting system should be regarded as optimally appropriate under all organizational

conditions. Rather, the appropriateness of an accounting system is contingent on the relationship between the system and the particular conditions within which it operates. Those accounting systems that match well with the environment within which they operate perform better in organizations.

Applied to this study, contingency theory provides the theoretical basis for explaining why agribusinesses operating in climate vulnerable environments require flexible, adaptive and forward looking accounting systems. Traditional accounting frameworks designed for stable operating environments are insufficient for managing the unpredictable cost structures, volatile inputs prices and irregular production cycles characteristics of climate stressed agribusinesses. Contingency theory thus supports the adoption of climate sensitive accounting tools including adaptive budgeting, environmental cost monitoring and real time performance tracking as context appropriate responses to heightened environmental uncertainty.

In a rigorous review of contingency-based management accounting scholarship, Chenhall (2003) concluded that organisations contending with pronounced environmental uncertainty derive measurable benefit from more sophisticated, information-intensive, and adaptable control systems. The finding directly supports the premise of the present study that agribusinesses in climate vulnerable settings require enhanced accounting practices to manage the financial consequences of climate variability.

2.1.4 Relevance of the Theoretical Framework to the Study

The three theories selected collectively provide a robust and complementary theoretical foundation for this study. Stakeholder theory explains the external accountability pressures that drive agribusinesses to adopt transparent accounting and reporting systems and

identifies stakeholder relationship management as a key pathway through which accounting practices improve agribusiness performance. Legitimacy theory explains how accounting disclosures serves as mechanisms through which agribusinesses maintain societal legitimacy and manage reputational risks in the context of climate related scrutiny. Contingency theory explains why accounting systems must be adoption of flexible, climate responsive financial management tools.

Prominently, these theories are not independent of one another. Stakeholder pressures create the demand for legitimacy maintaining disclosures which in turn must be delivered through accounting systems that are contingently aligned with the agribusiness's climate context. Together, the three frameworks provide an integrated theoretical lens through which the role of accounting in mitigating climate related financial effects can be analyzed and interpreted.

2.3 Empirical review

The following sections examine existing empirical evidence on the financial effects of climate change on agribusinesses and the role of accounting practices in managing those effects.

2.3.1 Climate change and agricultural productivity loses

A substantial body of empirical literature documents the measurable productivity losses that climate change imposes on agricultural systems, with direct consequences for agribusiness financial performance. Das, Kumar, Kasala and Nedumaran 2025, writing in Current Research in Environmental Sustainability, examined climate related disruptions across multiple food systems and found that extreme weather events including droughts, heatwaves and floods, significantly reduce agricultural outputs and increase operational

costs for agribusinesses. Their study documented cereal yield declines in India linked to inconsistent monsoon rainfall timing, widespread crop destruction in Australia following extreme bushfires and delayed planting seasons in the United States due to Mississippi Basin flooding.

The empirical evidence is consistent with functional scholarship through pioneering climate modelling research, Rosenzweig and Parry (1994) established that even relatively modest rises in global temperatures would generate discernible yield reductions in developing country agriculture, with the most acute impacts concentrated in tropical and sub-tropical agricultural zones. The earlier conclusion has been consistently supported by empirical research since. In the same journal, for example, Zhllima, Xhoxhi, Imami and Skreli (2025) found that there has been an estimated decline of up to five percent in the total output of global agribusiness every decade due to climatic disruptions compounded with additional problems in developing countries because of poor infrastructural capacity and financial access.

Locally, the internal production and financial reports of the business unit of the village in Nyamatowa village have shown a drop of up to twenty-two percent in output due to irregular rainfall, droughts and flooding with ten to twenty percent drops in production for key agricultural products such as maize and vegetables (Internal Production and Financial Report of the Village Business Unit 2023). It has also been stated by the Food and Agriculture Organization (FAO 2013) that climate variability is the leading cause of business volatility in the agribusiness industry in developing countries.

2.3.2 Input Cost Volatility Budget Variances and Financial Instability

Apart from productivity declines, the empirical literature shows that another severe financial problem posed by climate change is input cost volatility. According to Zhllima et al. (2025), supply chain interruptions caused by climate lead to serious increases in input costs, such as seed prices, chemical prices, and fertilizer prices due to disruptions in procurement processes and transportation networks. Consequently, the input cost changes make agribusinesses unable to create realistic budgets and forecast future expenses and potential expenditure changes.

It should be stressed that this empirical finding corresponds to long-held concerns expressed in the literature on agricultural economics. In an extensive analysis of grain production yields, Anderson and Hazell (1989) argued that the instability of production results in increased input price creating compounding financial risk for agricultural enterprises — a vulnerability that is especially pronounced in developing economies where crop insurance and other formal risk-transfer mechanisms remain largely inaccessible. These risks are especially pronounced for small scale rural agribusinesses with limited reserves and restricted access to formal credit markets.

In the context of Nyamatowa Village, the Village Business Unit's internal reports (2023) documents input price fluctuations of up to thirty percent, triggering panic stocking behavior among farmers and generating operational budgets variances of approximately eighteen percent. Emergency procurement expenditures further reduced available operational budgets by roughly ten percent, constraining the unit's capacity for planned investment and growth. Kumara, Chakraborty and Chakravarathi (2024) add regional depth to these findings by demonstrating that irregular rainfall distribution in Indian agro-ecological zones disrupted established sowing and harvesting cycle's resulting in procurement mismatches, elevated logistical costs and reduced financial predictability for input suppliers and commodity buyers.

2.3.3 Climate change, market performance and shareholder value erosion

Empirical research also documents the downstream effect of climate related disruptions on agribusiness financial performance and market stability. Kumbrottil Sundaran (2024), writing in Natural Hazards and Earth System Sciences, found that African agribusinesses affected by repeated droughts and floods experienced not only immediate production losses but also prolonged damage to supply chain relationships and market reputation as capital was reallocated from planned investments towards emergency recovery expenditures.

On a local level, the Village Business Unit (2023) observes that about 12% of the client base moved over to other competing brands following inconsistent supplies and issues with quality due to climate-based disruptions. This loss of customers was one of the factors responsible for market losses in addition to reduced value for investors. This observation concurs with studies that demonstrate that the disruption in operations due to climate changes results in decreased investor trust and long-term business value for companies that do not have proper financial accounting structures. Another example of how important structured financial management is in keeping up market performance in the face of climate disruption involves comparing the performance of European businesses utilizing the Green Deal and Common Agricultural Policy frameworks to incorporate climate risk into their financial management structure (Sundaran 2024).

It should be emphasized that in the case of a rural village enterprise, the notion of shareholder value needs to be interpreted more generally, as a measure of financial sustainability and investments in the companies themselves and not within the traditional shareholder value framework applicable to listed firms. This caveat is made clear and this study mainly relies on financial sustainability and operational stability as well as stakeholder confidence as measures of success.

2.3.4 Role of environmental accounting in mitigating climate-related costs

A unique body of research illustrates how environmental accounting serves as a basis for climate risk mitigation strategies in the context of agribusiness. Environmental accounting that involves identification and quantification of environmentally related costs like water usage, carbon dioxide emissions, costs of emergency irrigation and post-harvest losses was found to serve as a critical foundation for enhancing the transparency of financial management in climate vulnerable agricultural businesses (FAO 2013, Das et al 2025).

The pioneering study by Gray, Bebbington, and Walters (1993) on environmental accounting proved that when the inclusion of environmental costs in the financial framework of an organization was done systematically, then a greater understanding could be achieved about the actual cost burden and risk exposure of operations leading to more informed decision-making processes. This has been proven in the agricultural sector subsequently. According to Das et al (2025), firms that use environmental cost accounting techniques have a higher likelihood of being able to gauge the financial effects of climate-related risks which facilitates better loss estimation and recovery planning. Locally, because of the lack of climate integration in accounting, the losses suffered due to high input prices, emergency purchases, and shortages of production inputs in Nyamatowa village are unable to be quantified systematically which makes it difficult for Village Business Unit to make informed decisions regarding recovery.

2.3.5. Management Accounting Tools and Adaptive Financial Decision Making

Empirical studies have repeatedly supported the application of management accounting techniques as highly effective means of responding to variations in costs occasioned by changes in climatic conditions. According to Kumara et al (2024), the use of management accounting tools such as variance analysis, adaptive budgeting and scenario based financial forecasting were vital in aligning the financial plans of the agribusinesses with the changing

climatic environment. The firms which applied the tools in light of disrupted monsoons were able to make predictions regarding costs, plan timely purchases and maintain relationship with suppliers and buyers despite uncertainty.

The critical role played by management accounting in ensuring sustainability amidst production unpredictability was highlighted by Boehlje & Eidman (1984). They argued that well developed and systematic financial plans were vital for maintaining sustainable agricultural activities. Zhllima et al (2025) similarly found that agribusiness employing environmental cost accounting and sustainability reporting experienced greater resilience to climate shocks, as these tools enabled them to monitor resource consumption, identify cost overruns linked to climate events and make timely financial decisions. In the SADC context, firms that adopted cost variances tracking and climate risk budgeting maintained greater operational stability compared to those without such systems (Environmental Management Agency 2010).

2.3.6 Sustainability Reporting, Risk Disclosure and Stakeholder Confidence

Beyond internal management, empirical literature documents the role of sustainability reporting and risk accounting in maintaining stakeholder confidence and attracting adaptive capital in climate stressed agribusiness environments. Sustainability reporting frameworks such as the Global Reporting Initiative (GRI) and the Task Force on Climate related Financial Disclosures (TCFD) have been empirically shown to improve stakeholder confidence attracts climate finance and enhance corporate reputation in agricultural and agribusiness context (FAO 2013 and Zhllima et al., 2025).

Sundaran 2024, found a clear disparity between European and African agribusinesses in their use of sustainability reporting. European companies used structured disclosures to

communicate climate risks to regulators and investors, gaining access to financing and insurance products. African agricultural businesses, which did not have similar accounting procedures in place, found it difficult to assess the magnitude of climate damage, claim insurance claims, and adjust their finances accordingly. This disparity highlights how the lack of proper accounting infrastructure can have practical implications in terms of financial resilience. The study conducted by Das et al. (2025) showed that firms who used climate risks disclosures in their financial statements had an advantage of securing funding for irrigation systems and nursing technologies.

2.4 Gaps in the Literature

However, while the current body of work offers important insights into the linkages between climate change, performance of agribusinesses and accounting mechanisms, there are several important gaps which the proposed research aims to bridge.

2.4.1 Lack of Attention to the Challenges Faced by Small-Scale Rural Agribusinesses

One of the key limitations of the current literature is that most of it pays little attention to small-scale rural agribusinesses and focuses on big companies and multinational agricultural organizations. According to Das et al 2025, Zhllima et al 2025 and Kumari et al 2024, the existing findings have been mostly gathered based on data collected from large-scale agricultural businesses or data available at the national level. Therefore, the current body of literature does not address the financial problems, the capacity for effective accounting mechanisms, and risks faced by rural agribusinesses. It is important to acknowledge that a business unit within a rural village faces a completely different set of challenges than a large-scale business or an agribusiness aimed at exports.

2.4.2 Insufficient Research on Accounting Practices in Zimbabwe's Agricultural Sector

While several general works have examined climate changes and agriculture in relation to the SADC area, it can be said that there is a dearth of empirical, peer reviewed research regarding the use of accounting practices to manage climate-related risks in agriculture in Zimbabwe. As mentioned above, both the Environmental Management Agency (2010) and the FAO Mission Report (2006) detail the impact of climate changes on Zimbabwe's agriculture. However, while these documents discuss macroeconomic consequences of the problem, they do not examine management accounting practices employed to mitigate those consequences. Thus, there exists an opportunity for the current research to make an empirical contribution to this field.

2.4.3 Lack of Management Accounting in Climate Risk Management

It should be noted that most research in the area of accounting and climate changes tends to focus on reporting practices rather than management accounting approaches. There is comparatively less empirical investigation into how internal management accounting tools including flexible budgeting, cost variance analysis, performance nursing dashboards and adaptive financial forecasting can be practically deployed within agribusiness to manager day to day climate induced financial pressures. This gap is particularly acute in developing country contexts where formal sustainability reporting exceeds the capacity of small agribusinesses, yet management accounting tools could realistically be adopted to improve financial decision making and climate resilience.

2.4.4 Inadequate Attention to the Linkage between Climate Change, Shareholder Value and Accounting

Existing studies have documented the general financial consequences of climate change on agribusiness profitability, but relatively few have empirically examined the specific pathway through which climate induced disruptions erode shareholder value and fewer still have explored how accounting systems can interrupt or slow this erosion. In the context of small rural agribusinesses such as the Village Business Unit in Nyamatowa no existing study has modelled this relationship in analogous rural Zimbabwean agribusiness settings, nor has any study demonstrated empirically how climate integrated accounting practices might preserve of restores financial viability. This represents a meaningful gap that the current research directly seeks to fill.

2.4.5 Absence of Studies Linking Inputs Cost Volatility, Budget Variances and Accounting Responses

Another notable gap concerns the relationship between climates induced input cost volatility, unplanned budget variances and the accounting response available to agribusinesses. Although research such as that by Zhllima et al (2025) and Village Business Unit Reports (2023) demonstrate substantial variations in input costs and budgets due to climate disturbances. Little empirical evidence exists on the use of certain accounting methods like rolling budgets, contingency planning, or even real time cost reporting techniques in handling these variances. The importance of addressing this research gap increases in a resource constrained context, where unexpected costs may lead to the collapse of the whole agricultural business. By conducting the research in Nyamatowa village, this study will contribute to filling this important research gap.

2.5 Conceptual Framework

The conceptual model of this research is a visual representation of how the variables under discussion relate to each other. It draws on the theoretical framework outlined in stakeholder theory, legitimacy theory, and contingency theory and empirical findings from

previous sections. The framework shows the link between the impact of climate change on the financial performance of agribusinesses, and the role of accounting mechanisms in managing these effects.

2.5.1 Independent Variable; Climatic changes

Climatic changes constitute the independent variables in this research in the form of climatic stress factors that have a direct impact on agricultural activities and operations in agribusiness. These climatic stress factors comprise erratic and unpredictable rainfall patterns, periods of drought, floods, heat and extreme climatic conditions. In the case of the village of Nyamatowa, these effects of climatic changes are reflected in a decrease in the yield of crops, increases in the prices of inputs, as well as budget disruptions resulting from unplanned purchases and irrigation expenses (Village Business Unit, Internal Production and Financial Reports 2023).

2.5.2 Intervening Variable; Accounting Practice

The accounting practices act as an intervening variable in the study and are the main subject of investigation in this regard. The accounting practices can be viewed as the means by which the financial effects of climate change are recognized, measured, communicated and governed. There are four major classes of accounting practices to consider in this study. First, the environmental accounting consists of the recognition and measurement of costs arising from environmental impact such as water usage, emergency irrigation, wastage of inputs and post-harvest losses. Second, management accounting consists of the use of flexible budgeting, cost variance analysis, adaptive financial forecasting and performance monitoring in making effective decisions amidst climate induced uncertainty.

Third, risk accounting involves the identification, quantification and communication of risks arising from climate change within internal reports and financial statements to support effective risk management practices. Finally, sustainability reporting entails external communication of environmental performance, climate and climate change mitigation strategies using specific disclosure frameworks. Accounting practices provide a buffering effect against the disruptive influence of climate change on agribusiness financial performance.

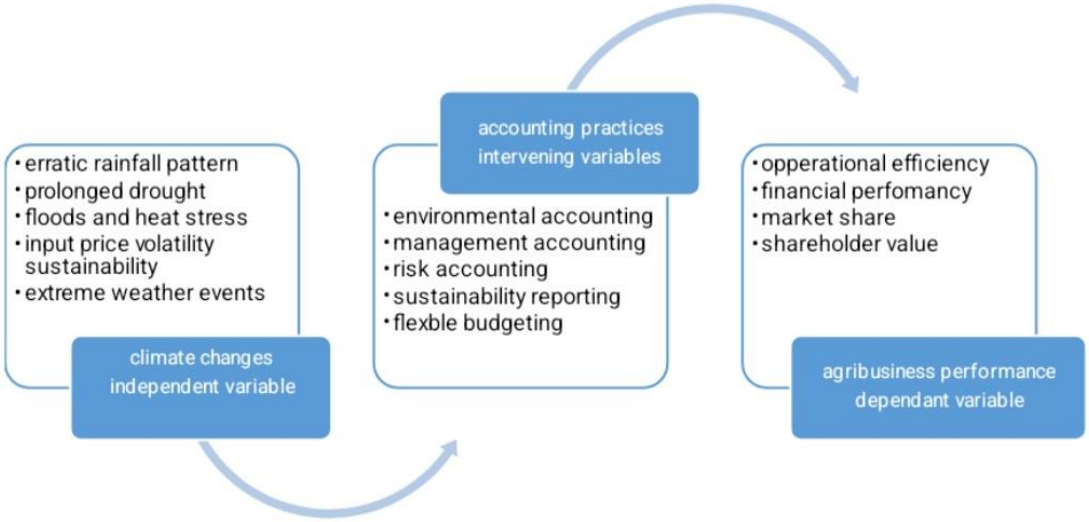
2.5.3 Dependent Variable; Agribusiness Performance

Performance of the agribusiness will be the dependent variable. Performance will be examined using three interrelated variables that relate to the research question. These are operational efficiency and productivity, which will be assessed by measuring levels of production output, crop yields, and supply chain management. The second dimension is financial performance, examined through input cost management, budget variance levels and overall profitability. The third dimension is market performance and customer satisfaction, assessed through indicators of market share retention, customer loyalty, competitiveness and the long term financial viability of the agribusiness.

2.5.4 Diagrammatic Representation of the Conceptual Framework

The diagram below provides a visual representation of the conceptual framework. It illustrates the flow of influence from the independent adjustable (climatic changes) through the intervening variable (accounting practices) to the dependent variable (agribusiness performance) and demonstrates how each section of the framework interacts with the others.

Figure 2.1: Conceptual framework, the role of accounting in mitigating the financial effects of climatic changes on agribusiness performance



Source: Researcher's Own Construction (2025), adapted from Das et al, Zhllima et al (2025) and Kumari et al (2024)ewD

As illustrated in figure 2.1, climate changes in the form of erratic rainfall, droughts, floods and input price volatility act as the independent variable that exerts pressure on agribusiness operations. Accounting practices includes environmental accounting, management accounting, risk accounting and sustainability reporting serves as the intervening variable through which the agribusiness responds to these pressures. When properly implemented, these accounting tools moderate the adverse effects of climate changes, enabling the agribusiness to maintain operational efficiency, manage costs, preserve market share and sustain shareholder value. The outcome, represented by the dependent variable is the overall performance of the agribusiness across financial, operational and market dimensions. The three theoretical pillars of the study namely contingency theory, legitimacy theory and stakeholder theory underpin each stage of this relationship, guiding the adaptation of accounting systems to climatic conditions, the maintenance of societal legitimacy through transparent reporting and the management of diverse stakeholder interests respectively.

2.6 Chapter Summary

This chapter reviewed theoretical and empirical foundations on accounting's role in mitigating climate-related financial impacts on agribusiness performance. Stakeholder, legitimacy, and contingency theories explain accountability, societal approval, and adaptive accounting systems. Empirical evidence shows climate-induced losses, cost volatility, and financial instability, alongside the effectiveness of environmental accounting and sustainability frameworks. Five literature gaps were identified: limited focus on small-scale rural agribusinesses, lack of Zimbabwe-specific research, weak integration of management accounting with climate risk, unclear links between disruption and shareholder value, and insufficient empirical work on cost volatility in resource-constrained settings. A conceptual framework mapping climatic stressors, accounting interventions, and performance outcomes is presented. The next chapter details the methodology.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology adopted in this study to investigate the role of accounting in mitigating the financial effects of climate changes on agribusinesses performance in Nyamatowa Village, Mutare Zimbabwe. The chapter justifies the choice of research philosophy, approach, design, strategy, population, sampling technique, data collection instruments and data analysis procedures. Ethical considerations and methodological limitations are also addressed.

The research methodology is grounded in established methodological principles and informed by the nature of the research problem. Given that the study seeks to understand both the financial impact of climate change on agribusiness and the qualitative role of accounting in mitigating these impacts, a mixed methods approach is most appropriate. It helps in collecting both quantitative information about financial measures and qualitative information concerning accounting practices.

3.1.2 Research Philosophy

Research philosophy can be described as the underlying framework of beliefs and assumptions regarding how researchers view knowledge acquisition and what reality means (Sunders, Lewis and Thomhill 2019). In this study, a pragmatist research philosophy is utilized. Pragmatism is a research philosophy that works well in mixed methodology as it prioritizes practicality. While pure positivism views reality as completely objective and

measurable, and while pure interpretivism highlights subjective interpretations of meaning, pragmatism embraces both types of methodologies depending on which one best solves the research problem at hand (Creswell and Creswell 2018).

Pragmatism in this case permits the researcher to collect quantitative data about the measurable financial effects of climate change on agribusiness, while also engaging in an analysis of the qualitative contribution of accounting practices to such effects. Pragmatism fits well within the framework of this study, since its aims are both descriptive and explanatory. Therefore, numerical information about changes in input costs and budget variances, as well as understanding of accounting processes must be collected.

3.2 Research Approach

The research approach refers to the plan and procedures used to collect and analyses data. There are three primary approaches which are deductive, inductive and adductive (Bryman 2026). This study adopts a mixed deductive and inductive approach, which aligns with the pragmatist philosophy and the mixed methods research design.

The deductive component involves testing existing theories and frameworks against empirical evidence collected from the study setting. The theoretical frameworks of stakeholder theory, legitimacy theory and contingency theory reviewed in chapter 2 provide a priori propositions about how accounting practices mediate the relationship between climatic changes and agribusiness performances. These theoretical propositions guide the formulation of the research questions and the design of the data collection instruments.

The inductive component involves building insights and understanding from the data collected in the field. Qualitative data obtained through interviews and observations with agribusiness managers, farmers and accountants may reveal patterns, themes and relationships not fully captured by existing theory. Such reasoning makes it possible for the study to come up with contextually appropriate conclusions, thus adding more knowledge in the literature concerning climate change and agricultural accounting in rural areas of Zimbabwe.

3.3 Research Design

A research design can be defined as the general plan guiding the process of data collection, measurement and analysis (Creswell and Creswell 2018). This research will use sequential explanatory mixed methods research design, which entails both quantitative and qualitative procedures of data collection and analysis. It is selected in order to allow triangulation of findings, and hence improving on validity, reliability and completeness of the research findings.

Quantitative design entails gathering of numeric data regarding critical financial performance variables such as costs of inputs, budget variances, production levels, market performance, among others, from the Village Business Unit and affiliated agribusinesses at Nyamatowa Village. Qualitative design involves gathering of in-depth descriptive data through semi-structured interviews and focused group discussions from key informants, who include agribusiness managers, farmers, accountants and extension agents. This data gives qualitative context in relation to how the accounting process is implemented, the issues faced when handling climate-related financial risks and the views of the parties on the use of accounting in reducing the risks involved.

Combining quantitative and qualitative data in a sequence of explanation, whereby quantitative data is obtained and analyzed before the qualitative data which explains the quantitative data, is the particular mixed method adopted. This strategy suits the research since it will ensure that the qualitative data collected is focused and relevant. The interviews will focus on what emerges from the quantitative data obtained.

3.4 Research Strategy

Research strategy can be defined as the approach adopted in order to guide the research process and link the research philosophy with the method of research selected and the intended results (Saunders et al 2019). The research methodology used in this paper is the case study strategy where the focus is made at the Village Business Unit and related businesses within the Nyamatowa village in Mutare district. Case study is the most appropriate methodology for this research since it allows in-depth analysis of the problem under study using a real life context (Yin 2018). Climate change and accounting adaptation are very context specific being determined by environmental, institutional and socio-economic conditions.

Nyamatowa Village was purposely selected as a case site and it makes theoretical sense. The Village business unit under scrutiny is a small representative business unit which is directly exposed to the climate hazards discussed in chapter one and two. It has financial records and strategic planning documents provide a readily accessible empirical base for quantitative analysis, while the presence of identifiable stakeholders including farmers, managers and local accountants facilitates meaningful qualitative inquiry.

3.5 Population of the Study

The term 'population' used in research refers to the totality of individuals, organization, or elements under consideration by the researcher in conducting his study (Kothani 2004). In this particular case, the population for this study is composed of individuals and organizations associated with agribusiness management and business operations in Nyamatowa Village, Mutare, Zimbabwe. These include agribusiness management personnel, farmers involved in supplying produce to or purchasing inputs from the Village Business Unit, accounts and financial personnel, local agricultural extension officers, suppliers and distributors, government officials and customers dealing with the local agribusinesses.

According to the records held by the Village Business Unit, there are about 120 individuals constituting this particular population of interest in the study. These records have kept registers of farmers, employees and suppliers of the agribusiness organization. Further supporting this estimation is the local agricultural extension records provided by the Mutare District Agricultural Officer. It can be noted that the size of this particular population is relatively small.

3.6 Sampling Technique and Sample Size

Sampling is a process whereby a representative part of the population is chosen to participate in the study (Bryman 2016). Owing to the mixed methodology used in this study, the two types of sampling methods have been used to select participants.

3.6.1 Quantitative Sample

In quantitative research, simple random sampling is applied. Random sampling is a technique that gives every individual within the target population an equal opportunity of participating in the research hence reducing any bias in sampling (Kothani 2004). In this

case, the study has sampled 50 people among the target population of about 120 people. The formula used in the determination of the appropriate sample size is that proposed by Yamane (1967) as follows:

$$n=N / (1+Ne2$$

Where n is the number of the required sample, N is the total number of the population (120), and e is the margin of error acceptable (0.1). This will give a sample size of 55 while taking a more conservative sample of 50 is sufficient. This sample includes farmers, agribusiness staff, suppliers and customers who interact with the Village Business Unit.

3.6.2 Qualitative Sample

For the qualitative strand of the research, purposive sampling is employed. Purposive sampling involves the deliberate selection of participants based on specific characteristics or expertise relevant to the research questions (Creswell and Creswell 2018).

Table 3.1 Target population distribution

Department	**Position**	**Number of participants**
Agribusiness management	Agribusiness manager	5
Accounting	Accounting staff	3
Agricultural extension	Agricultural extension officer	3
Local government	Local government representative	2
Farming community	Experienced farmer	2
Total		**15**

These individuals are purposively selected for in-depth semi-structured interviews based on their direct knowledge of climate-related financial challenges and familiarity with accounting practices in the agribusiness context.

3.7 Data Collection Instruments

This study employs three primary data collection instruments; each aligned with either the quantitative or qualitative strand of the mixed methods design.

3.7.1 Structured Questionnaire

A structured questionnaire is the primary data collection instrument for the quantitative strand. The questionnaire is designed to collect numerical data from the 50 sampled respondents on key financial performance indicators and climate related experiences. The questionnaire is divided into five sections. Section A collects demographic and background information. Section B captures data on the perceived impact of climatic changes on agricultural productivity and operational costs. Section C, collects data on input price fluctuations and budget variance experiences. Section D explores changes in market share, customer satisfaction and shareholder value attributable to climate related disruptions. Section E gathers data on the accounting practices currently in use within the agribusiness setting and their perceived effectiveness in managing climate related financial risks. The questionnaire employs closed ended questions, five-point Likert scale items and multiple-choice questions. A pilot test with five respondents is conducted prior to full scale administration to assess clarity, relevance and internal consistency.

3.7.2 Semi Structured Interview Guide

A semi structured interview guide is the primary data collection instrument for the qualitative strand of the research. The interview guide consists of open ended questions designed to elicit in depth responses from the 15 purposively selected key informants on the nature and extend of climate change impacts on agribusiness operations, the accounting practices used to manage climate related financial risks and the perceived effectiveness of these practices. The semi structured format allows the researcher to follow a predetermined set of themes while remaining flexible enough to explore unexpected insights or relevant tangents raised by participants (Bryman 2016). Interviews are conducted in persons, audio recorded with informed consent and subsequently transcribed verbatim for thematic analysis.

3.7.3 Documentary Analysis

Secondary data, which will also be used alongside the primary data, will be gathered using documentary analysis. The documents that will be analyzed include the Village Business Units production and financial internal reports between 2020 to 2023, their strategic planning documents, budgetary documents, and if there are any sustainability or environmental reporting documents available. Documentary analysis serves as a scientific and longitudinal tool for conducting the quantitative financial analysis, and this helps in triangulating results thereby making the research more credible and valid (Yin 2028).

3.8 Data Collection Procedure

Ethical clearance is obtained from the relevant institutional review board prior to the data collection process. Permission to conduct the research is formally sought from the management of the Village Unit and the local authorities of Nyamatowa Village. Information sheets are distributed to all participants informing them of the purpose of the research, and their right to participate voluntarily in the research and for their answers to be kept confidential.

The questionnaires will be completed during the visit made to the village by the researcher in person. The researcher will be present while filling out the questionnaires to explain any ambiguity and achieve high rates of respondents. Questionnaire data will be gathered immediately after the process of completing them. The semi-structured interviews will take place pre-scheduled after the questionnaire data gathering session. An interview will last approximately 45 to 60 minutes. Interviews will be taped with the consent of participants. The documentary data will be gathered in accordance with permission from the Management of Village Unit. This data will be processed according to the confidentiality agreement reached at the beginning of research. The whole data gathering process will take four weeks.

3.9 Data Analysis

Each of the two data strands is subjected to different yet complementary data analysis techniques, as required by the adopted sequential explanatory mixed methods research design.

3.9.1 Quantitative Data Analysis

The quantitative data obtained from the structured questionnaire and documentary review will be subjected to descriptive and inferential statistical analysis. The description of data will involve descriptive statistics such as frequency distributions, percentage distribution, mean and standard deviation. These descriptive results will be presented in tables and graphs.

Inferential statistics, specifically Pearson correlation analysis and simple linear regression are employed to examine the relationships between climatic change indicators and agribusiness financial performance outcomes. Pearson correlation is used to assess the direction and strength of the linear relationships between variables such as rainfall variability and production output, input price volatility and budget variance and climate related disruptions and shareholder value. Simple linear regression is used to determine the extent to which climatic change variables predict financial performance outcomes. Statistical significance is assessed at the 0.05 level. It is acknowledged that with a sample of 50 regression findings will be interpreted with appropriate caution and descriptive results will be given primary analytical weight. All quantitative data is processed and analyzed using the Statistical Package for the Social Science (SPSS) version 26

3.9.2 Qualitative Data Analysis

Qualitative data obtained from the semi structured interviews are analyzed using thematic analysis, following the six-phase process described by Braun and Clarke 2006. In the first phase, the researcher familiarizes themselves with the data by reading and re-reading the transcribed interviews. In the second phase, initial codes are generated to capture meaningful features of the data relevant to the research question. In the third phase, codes are sorted and collated into potential themes. In the fourth phase, themes are reviewed and refined to ensure they accurately reflects data. Then themes are named and defined clearly. In the sixth phase the final themes are reported with illustrative excerpts from participant responses. The thematic analysis is guided by the research objectives and the theoretical frameworks reviewed in chapter two.

3.9.3 Integration of Quantitative and Qualitative Findings

The integration of quantitative and qualitative findings is achieved in the sequential explanatory manner characteristics of the mixed methods design. Quantitative results are

presented and discussed first, followed by the qualitative findings which serve to explain, elaborate and contextualize the numerical results. Integration occurs at the level of interpretation where the researcher draws connections between statistical patterns identified in the quantitative phase and the thematic insights generated in the qualitative phase. This integrated approach enhances the depth, credibility and practical relevance of the study's conclusions.

3.10 Validity and Reliability

3.10.1 Validity

Validity of the structured questionnaire is established through an expert validation process conducted by the research supervisor and two other researchers experienced in the field of agricultural finance and environmental accounting. The questionnaire questions will be checked to ensure that all dimensions of the study variables are covered and are clearly expressed to avoid any form of misinterpretation. The semi-structured interview guidelines will also be validated based on their conformity to the stated research objectives before implementation. Validity in the constructs will be ensured through the link created between the research instruments used in the study and the theoretical background established in Chapter Two.

3.10.2 Reliability

Reliability for the structured questionnaire will be gauged based on Cronbach's Alpha coefficient, where a value above 0.7 will signify acceptable internal consistency (Nunnally 1978). A pilot test will precede the large-scale deployment of the survey in order to eliminate unreliable or unclear questions. For the qualitative research, reliability will be increased by carrying out member checks in which an outline of themes that emerged will

be presented to the respondents for confirmation. Audit trails will be kept of all the coding, themes and supporting quotations during the process of qualitative data analysis.

3.11 Ethical Considerations

Ethics will be observed in conducting this research. Written consent will be provided to all research participants in advance. All the participants will be appraised of the purpose of the research, the voluntary nature of their participation and their right to withdraw at any time without any penalties. Confidentiality and anonymity will be ensured throughout the research process. None of the participants will be named in the research report. All the responses to questionnaires will be coded numerically while interviews will be transcribed anonymously. All the collected data will be stored securely in a password protected personal computer owned by the researcher and his/her supervisor.

The investigator adheres to the cultural values and sensibilities of the Nyamatowa Village community during the entire process of collecting the data. The interview and questionnaire sessions will take place using a language that makes participants feel comfortable and easy. There is no deception involved in the research and all activities are carried out following the ethical codes of conduct set by the researcher's institution.

3.12 Limitations of Methodology

Despite the rigor and comprehensiveness associated with the methodology chosen for this study, several limitations are acknowledged. Firstly, the narrow geographical scope of the investigation limits its generalizability since it only targets a specific village in Zimbabwe and the wider SADC region. Secondly, there could be the possibility of social desirability in response to questions contained in the questionnaire due to self-reporting. Third, the availability and completeness of secondary documentary data from the Village Business

Unit may be constrained by the informal record keeping practices. Fourth, the researcher acknowledges the potential for researcher bias in the thematic analysis of qualitative data. While reflexivity, member checking and an audit trail are employed to minimize the risk. Fifth, the rapidly evolving nature of climate change means that conditions in Nyamatowa Village may change between the time of data collection and the time of publication.

3.13 Chapter Summary

This chapter has presented the research methodology adopted in this study, providing a detailed justification for each methodological choice. The study adopts a pragmatist philosophy and a mixed deductive-inductive approach implemented through a sequential explanatory mixed methods design grounded in a case study strategy centered on Nyamatowa Village Mutare. The target population of approximately 120 individuals is engaged through simple random sampling for the quantitative strand (n=50 justified using the Yamane formula) and purposive sampling for the qualitative strand (n= 15). Data is collected using structured questionnaires, semi structured interviews and documentary analysis and is analyzed using descriptive and inferential statistics alongside thematic analysis. The chapter has also addressed issues of validity, reliability, ethical considerations and methodological limitations. The subsequent chapter presents the results of the data collection and analysis procedures outlined herein.

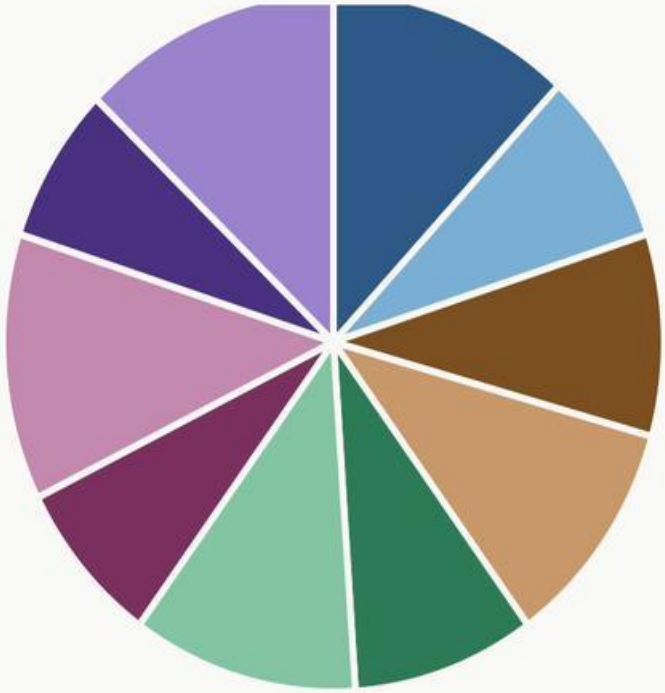
CHAPTER 4

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 Introduction

This chapter presents and interrogates mixed-methods data on accounting's role in mitigating climate-related financial impacts on agribusiness performance in Nyamatowa Village. Quantitative findings from 47 questionnaires (94% response rate) and Village Business Unit financial documents (2020-2023) are presented first, followed by qualitative insights from 15 semi-structured interviews (100% response rate). The chapter is organised into sections covering climate impacts, accounting practices, inferential statistics, thematic analysis, and integrated discussion.

4.1 Section A: Demographic profile of respondents



GENDER

Male	59.6%
Female	40.4%

AGE GROUP (DOMINANT)

31–45 years	46.8%
Other age groups	53.2%

ROLE (DOMINANT)

Farmer / Producer	44.7%
Other roles	55.3%

EXPERIENCE (DOMINANT)

5–10 years	38.3%
Other experience levels	61.7%

EDUCATION (DOMINANT)

Secondary	36.2%
Other education levels	63.8%

Table 4.1: Summary Demographic profile of respondents (n=47). Source: Field survey (2025)

The Figure 4.1 below shows the most common demographic factors among the 47 respondents on five variables. Males were more numerous at 59.6%, due to the predominance of males in rural agribusiness in Zimbabwe. Respondents were mostly aged between 31-45 years (46.8%) showing the sample to be economically active and experienced persons. Farmers and producers made up 44.7% of all respondents since the research focused on the Nyamatowa Village Business Unit that deals in agriculture. Most of the respondents have been in agribusiness for 5-10 years (38.3%) showing sufficient practical knowledge to be used in this study. Those who have reached secondary school education made up 36.2% of all respondents emphasizing the need for availability of accounting practices.

4.2: Climate Change Impacts, Cost Volatility and Market Performance

Sections B, C and D of the questionnaire showed the perception of the respondents regarding the impact of climate change on productivity, inputs costs and market performance using a five point Likert scale (1= strongly disagree to 5= strongly disagree). The best-ranked items among sections B, C and D are summarized in table 4.2.

Table 4.2: perceived impacts of climate change on Productivity (n=47)

Statement	**Mean**	**SD**	**% agree/SA**
Section B: climate impact on productivity			
Erratic rainfall has reduced crop yields	5.52	0.61	91.5%
Climate variability has made planning difficult	4.45	0.68	89.4%
Drought has disrupted planting and harvesting	4.38	0.72	87.2%
Section C: Input cost volatility and budget variances			

Input price has increased due to climate disruptions	4.47	0.65	89.4%
Budget variances from climate events were difficult to manage	4.43	0.74	85.1%
Emergency expenditure reduced budget for planned investments	4.26	0.79	83.0%
Section C: market performance and stakeholder confidence			
Long term loan viability negatively affected by climate change	4.30	0.73	85.1%
Customers market share lost due to supply inconsistency	4.28	0.77	85.1%
Difficulty attracting investment or financing	4.02	0.97	76.6%

All items recorded mean scores above 4.0, indicating strong and consistent agreement across the sample. Erratic rainfall reducing crop yields attracted the highest agreement overall (mean=4.52, 91.5%), consistent with the VBU's documented 10-20% reduction in maize and vegetable output (VBU Internal Reports 2023) and corroboting Das et al. (2025) and Zhllima et al (2025). Input price increases (mean= 4.47; 89.4%) align with the VBU's recorded fluctuations of up to 30%, while climate driven budget variances (mean= 4.34; 85.1%) reflect the VBU's 18% operational variance figure. These findings are consistent with contingency theory, which holds that accounting systems misaligned with their operating environment generate poor financial outcomes (Gordon and Miller 1976 Chenhall, 2003). On market performance, concern about long term financial viability (mean=4.30; 85.1%) and market share losses (4.28; 85.1%) VBU reports approximately 12% of client shifting to competitors confirm that climate disruptions erode commercial standing and capital access, as documented by Kumbrottil Sundaran (2024) and consistent with stakeholder theory (Freeman 1984).

4.3 Accounting Practices and Climate Risk Management

Section E examined the accounting tools in use and their perceived effectiveness. Table 4.3 presents the results.

Statement	Mean	SD	%Agree/SA
Environmental cost accounting used to track climate	2.87	1.12	31.9%
Flexible budgeting and variance analysis employed	3.03	1.09	38.3%
Sustainability reports prepared	2.43	1.18	23.4%
Climate risk formally disclosed in financial reports	2.66	1.15	27.7%
Need for more structured climate accounting tools	4.55	0.58	93.6%

Table 4.3: Accounting Practice Adoption and Effectiveness (n=47) source Field survey (2025)

A critical gap is evident, all items measuring current accounting practice adoption cluster below the midpoint, while 93.6% of respondents recognize an urgent need for more structured tools (mean= 4.55). Sustainability reporting recorded the lowest adoption (mean= 2.43; 23.4%), limiting agribusiness ability to communicate climate resilience to financiers and regulators. A gap consistent with Sundaran (2024) finding on the financing disadvantage facing African agribusiness without disclosure frameworks. The low use of environmental cost accounting (mean=2.87) means climate related costs remain invisible in financial planning, undermining evidence based decision making (Gray, Bebbington and Walters 1993).

4.4 Inferential Statistical Analysis

Pearson correlation analysis was conducted to examine relationship between climate disruption severity and financial performance indicators. Table 4.4 presents the correlation matrix.

Variable	(1)	(2)	(3)	(4)	(5)
Climate disruption severity	1.00				
Input cost volatility	0.74	1.00			
Budget variance magnitude	0.72	0.69	1.00		
Market performance decline	0.68	0.65	0.64	1.00	
Accounting practice adoption	-0.60	-0.56	-0.54	-0.51	1.00

Table 4.4: Pearson correlation matrix (n=47). Note p<0.01 (two tailed). Source: field survey 2025

Climate disruption severity is strongly correlated with input cost volatility (r=0.74) and budget variance magnitude (r=0.72), conforming that more severe climate events generate proportionally greater financial disruption. Critically, accounting practice adoption is negatively correlated with all four financial impact variables (r= -60 to -0.51, all p<0.01), indicating that higher accounting adoption is associated with reduced financial disruption across every dimension providing quantitative support for the study's central thesis (Kumari et al 2024).

4.5 Quantitative Findings

Semi structured interviews with 15 key informants five agribusiness managers, three finance staff, three extension officers, two government representatives and two farmers yielded four themes through thematic analysis (Braun and Clarke, 2006).

4.5.1Theme 1: Direct Financial Consequences of Climate Variability

Financial disruption was noted by all interviewees due to erratic rainfall, droughts, and flooding. One manager indicated that rainfall uncertainty made it impossible to maintain procurement plans, while another indicated that urgent input purchases in times of price

peaks accounted for up to a quarter of the budget per season. The interviews support the qualitative findings obtained in section 4.3.

4.5.2 Theme 2: Limitations of Existing Accounting Systems

The accounting system used by companies was found to be retrospective in nature, in that they were used to capture previous events as opposed to forecasting risks associated with climate change. Finance personnel did not indicate any special consideration in terms of tracking climate risks nor did they project climate risks through scenarios. An extension officer indicated that if the company cannot recognize the total cost of a drought through its accounting system, it cannot make adequate plans.

4.5.3 Theme 3: Perceived Value of Accounting Tools

Participants expressed strong interest in flexible budgeting and dedicated climate contingency budget lines. One manager described such a provision as potentially transformative in reducing the financial panic triggered by climate events. Finance staff similarly valued variance analysis for faster recovery decisions and environmental cost tracking for demonstrating true risk exposure to potential financiers consistent with contingency theory (Chenhall 2003).

4.5.4 Theme 4: Stakeholder Confidence and Access to adaptive Capital

A government representative stated that any funder requires records demonstrating both the extent of climate losses and the capacity to manage them. One manager observed that there are climate adaptation funds available nationally, but we cannot access them because we do not have the accounting systems to produce the documentations required. This directly

supports legitimacy theory (Suchman 1995, Deegan 2002) and Sundran's 92024) comparative evidence on the financing disadvantage of African agribusinesses.

4.6 Discussion and Chapter Summary

The integrated findings provide compelling, mutually reinforcing evidence in support of all four research objectives. Regarding objective 1, current practices are sufficient for climate risk identification or monitoring with sustainability reporting (mean= 2.43) and risk disclosure (mean= 2.66) particularly underdeveloped corroborating Chenhall (2003). For objective 2, strong correlations (r= 0.74 and 0.72) and high mean scores across section B and C confirm climate variability as a primary driver of input cost volatility and budget instability, consistent with the VBU's own financial records. On objective 3, the inverse association between accounting adoption and financial impact variables (Table 4.4) indicates that structured accounting systems reduce climate related financial disruptions, supported by the near universal demand for improved tools (93.6%). For objective 4, the near total absence of sustainability reporting has excluded agribusiness from formal financing channels as qualitative data vividly illustrates consistent with legitimacy theory. Taken together, the evidence confirms that climate integrated accounting practices, environmental cost accounting, flexible budgeting, variance analysis and sustainability reporting are essential and presently underutilized mechanisms for improving agribusiness financial resilience in Nyamatowa Village.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter draws together the findings of the study, presenting the principal conclusions arising from both the quantitative and qualitative analysis conducted in chapter 4. It then sets out targeted recommendations for agribusiness managers, accountants, policymakers and researchers followed by suggestions for future research and a final summary of the study's contribution to knowledge.

5.2 Summary of Key Findings

The study investigated the role of accounting in mitigating the financial effects of climate change on agribusiness performances in Nyamatowa Village Mutare Zimbabwe. The evidence gathered from 47 questionnaire respondents, 15 semi structured interviews and documentary analysis of the VBU internal financial records for 2020 to 2023 produced four interlocking findings that together answer the study's research questions.

First, climate change exerts severe and measurable financial pressure on agribusiness operations. Erratic rainfall reduced crop yields (mean= 4.52; 91.5% agreement) and the VBU's own records confirmed a 22% decline in productive output over the study period. These findings are consistent with Das et al (2025) and Zhllima et al (2025), who conducted comparable productivity losses in developing country agricultural systems.

Second, climate disruptions generate significant input cost volatility and budget instability. Input prices fluctuated by up to 30%, producing an 18% operational budget variance and consuming approximately 10% of the planned investment budget in emergency procurement. Pearson correlation analysis confirmed strong positive relationships between climate disruption severity and both input cost volatility ($r=0.74$) and budget variance magnitude ($r=0.72$), confirming that more intense climate events produce proportionally larger financial disruptions.

Third, accounting practice adoption in the study context is critically low. Environmental cost accounting, flexible budgeting and sustainability reporting all recorded mean adoption scores below the questionnaire midpoint with sustainability reporting the least adopted (mean= 2.43; 23.4%). Thus, a lack of structured climate-related accounting systems poses the inability of quantifying financial losses, adapting to those losses and communicating such financial risks to outside stakeholders, as discussed in the literature review in chapter 2.

Fourth, when these tools are implemented, they reduce climate-induced financial problems. Implementation of accounting practice proved to be negatively correlated with all four variables ($r= -0.60$ to -0.51 all $p<0.01$). All qualitative participants appreciated the potential benefits of using budgeting techniques and environmental cost accounting in decision-making. The widespread demand for such practices (93.6%) makes recommendations of the research even timelier.

5.3 Conclusions

This research suggests that climate change is one of the major factors that threaten the financial performance, stability and sustainability of agribusinesses in Nyamatowa Village.

Financial impacts caused by such changes are systemic, repetitive and compound within the areas of productivity, cost management, market performance and stakeholder confidence. Absence of proper accounting tools makes the agribusiness incapable of efficient handling of financial issues related to climate change.

Accounting practices such as environmental cost accounting, accounting instruments, risk accounting and sustainability reporting are empirically proven means of achieving financial resilience. In this case, the theoretical foundations of this research, including stakeholder theory, legitimacy theory and contingency theory have all been empirically proven. The need for accounting due to climate variations stems from the need for financial accountability as dictated by stakeholders' pressures. Legitimacy theory is also empirically proven since there is an evident connection between the lack of sustainability reporting and non-inclusion into adaptive financing channels. Contingency theory has been proven because of the evident correlation between the use of accounting tools and low level of financial disturbances, meaning that effective accounting practices perform better under conditions of climate variation.

Finally, the achievement that can be made by carrying out this research is that the reason behind the mismatch between the importance of these climate-related accounting practices and their adoption is not lack of knowledge, but rather deficiency in accounting infrastructures and technologies. Thus, the solution requires joint efforts by agribusiness managers, local governments, professional accounting perspectives and development finance institutions.

5.4 Recommendations

5.4.1 Recommendations for Agribusiness Managers and Accountants

The VBU and its agribusiness should urgently adopt the adoption of a climate cost account ledger as a means to capture and quantify any expenses resulting from the occurrence of climatic conditions. This may include expenses incurred for emergency inputs, irrigation expenses, loss of crops and supply chain interruption expenses. The adoption of such an approach would change how losses and costs are captured and would help finance departments prepare for future expenses that might arise due to climatic change. In addition, it is advised that flexible budgets that incorporate costs in case of drought, flood, and price shocks be introduced to replace traditional annual budgets. The establishment of a contingency budget with the starting figure of 15% of the total yearly budget is encouraged based on the 18% variance observed during the research period. Capacity building in terms of variance and environmental expense tracking should be offered to the finance personnel.

5.4.2 Recommendations for policymakers and government

The Zimbabwean government through the Ministry of Agriculture and Environmental Management Agency should come up with a simplified climate accounting agenda meant for small rural agribusiness. Such a framework, adapted from the principles of the Global Reporting Initiative and the Task Force on Climate related Financial Disclosures, would enable rural initiatives to produce sustainability disclosures without the complexity associated with large scale corporate reporting. This would directly discourse the documented exclusion of rural agribusiness from climate adaption finance and insurance schemes. Furthermore, agricultural extension services should be expanded to include financial literacy and accounting support, recognizing that climate elasticity in agribusiness is as much as financial management challenge as it is an agronomic one.

5.4.3 Recommendations for Professional Accounting Bodies

The Institutes of Chartered Accountants of Zimbabwe and related professional bodies should incorporate climate risk accounting and environmental cost management into their

continuing professional development programs. Also involving with a particular emphasis on practical tools appropriate for small and medium sized agricultural enterprises. Outreach programs that deploy accounting professionals to rural communities on a voluntary or subsidized basis would directly address the technical capacity, deficit identified in this study and provide the institutional bridge amid formal accounting practice and rural agribusiness need.

5.5 Suggestions for Future Research

The present study focused on one village business unit over four years and although the findings have an empirical basis, they remain situation specific. There are a number of directions that future studies could take in order to address some of the limitations mentioned above. First, future studies should conduct multi-sited comparative research among numerous rural agribusiness units in the province of Manicaland or even SADC in order to generalize better the link between the adoption of accounting practices and financial resilience to climate change. Secondly, future research should conduct longitudinal research on the same agribusiness units before and after the implementation of climate integrated accounting systems in order to demonstrate cause-and-effect relationships regarding improvements in financial outcomes as a result of their use. Finally, future research should focus on the barriers to adoption of sustainable reporting among small rural agribusinesses in order to clarify which of those barriers be it costs, lack of technical proficiency, lack of knowledge, etc. is a primary hindrance in the process. As a conclusion, the application of digital accounting technologies in rural Zimbabwe stands as a promising area of research.

5.6 Summary of this chapter and final remarks

This study sought to examine the influence of accounting on the demonstration of climate change finance impacts on agribusiness presentations in Nyamatowa Village, Mutare,

Zimbabwe. The findings obtained from the combination of quantitative research techniques together with qualitative approaches have conclusively proved that climate change causes heavy financial repercussions for rural agribusinesses, and that a strategic use of accounting practices integrated with climate change considerations can be used to alleviate such adverse impacts. The current study contributes local and original empirical knowledge to a literature that has tended to concentrate on a wider scale perspective or international approach to the issues being examined, while addressing identified gaps in the existing literature on the relationship between accounting and climate change in rural Zimbabwean agribusinesses. The main message conveyed by the research is that accounting should be viewed not just as an accounting system, but as a climate adaptation mechanism.

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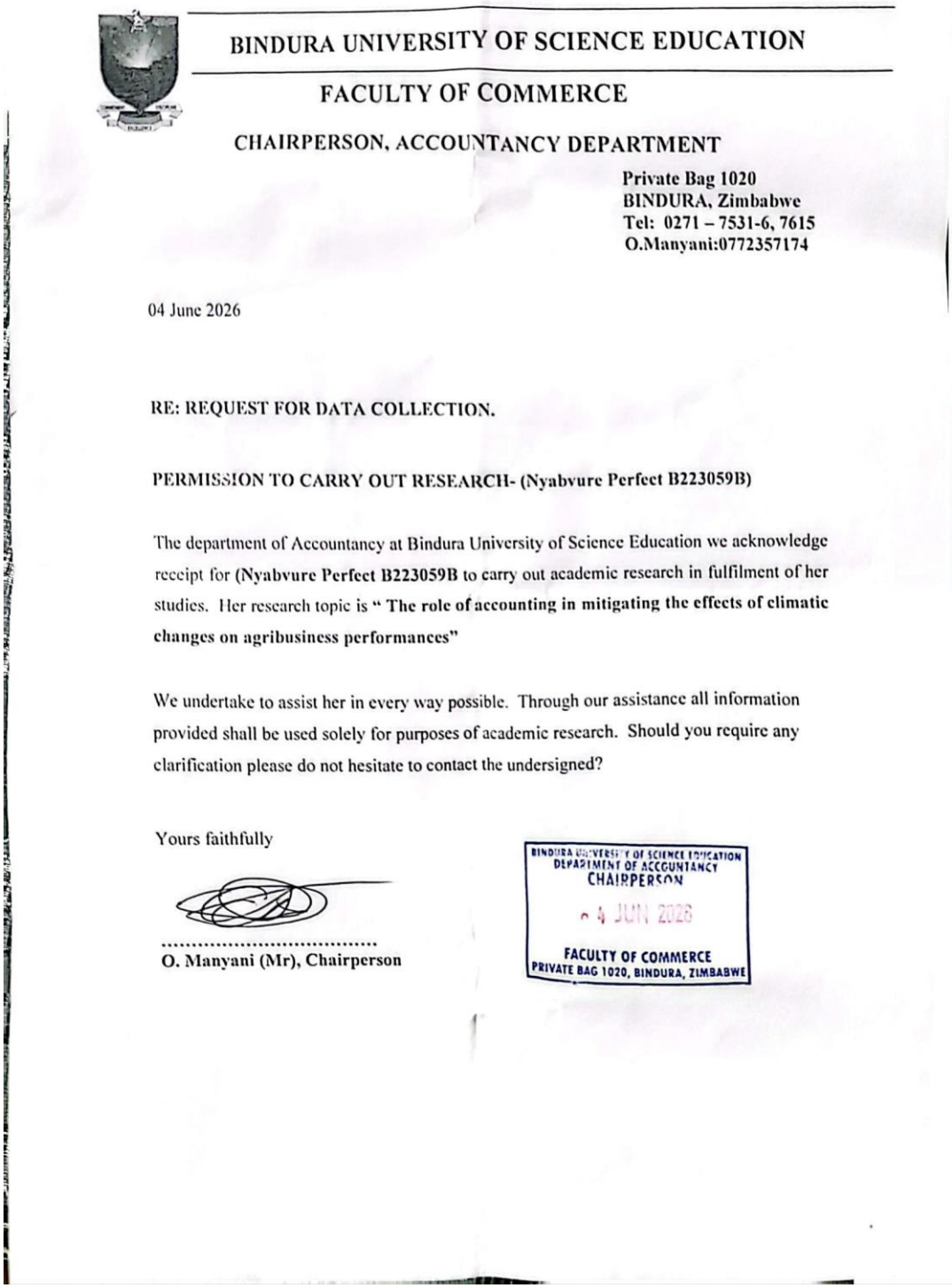
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APPENDICES

APPENDIX A: LETTER OF CONSENT TO CONDUCT RESEARCH



BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF COMMERCE

CHAIRPERSON, ACCOUNTANCY DEPARTMENT

Private Bag 1020
BINDURA, Zimbabwe
Tel: 0271 – 7531-6, 7615
O.Manyani:0772357174

04 June 2026

RE: REQUEST FOR DATA COLLECTION.

PERMISSION TO CARRY OUT RESEARCH- (Nyabvure Perfect B223059B)

The department of Accountancy at Bindura University of Science Education we acknowledge receipt for (Nyabvure Perfect B223059B to carry out academic research in fulfilment of her studies. Her research topic is " **The role of accounting in mitigating the effects of climatic changes on agribusiness performances"**

We undertake to assist her in every way possible. Through our assistance all information provided shall be used solely for purposes of academic research. Should you require any clarification please do not hesitate to contact the undersigned?

Yours faithfully

.....
O. Manyani (Mr), Chairperson

BINDURA UNIVERSITY OF SCIENCE EDUCATION
DEPARTMENT OF ACCOUNTANCY
CHAIRPERSON
04 JUN 2026
FACULTY OF COMMERCE
PRIVATE BAG 1020, BINDURA, ZIMBABWE

APPENDIX B: SEMI STRUCTURED INTERVIEW GUIDE

This interview guide is intended for the 15 purposively selected key informants of the Village Business Unit. Interviews will be conducted in person, audio recorded with informed consent and transcribed verbatim for thematic analysis. Estimated duration: 45–60 minutes.

Section A: Background

1. What is your role within the Village Business Unit and how long have you held this role?
2. Can you briefly describe the agribusiness activities undertaken by the Village Business Unit?

Section B: Nature and Extent of Climate Change Impacts

1. In your own words, how has climate change (rainfall variability, drought, flooding) affected the operations of the Village Business Unit over the past four years?
2. Can you give specific examples of financial losses or cost increases that resulted directly from climatic events?
3. How has input price volatility linked to climate change affected your budgeting and financial planning?

Section C: Accounting Practices Used to Manage Climate Related Financial Risks

1. What accounting tools, records or systems does the Village Business Unit currently use to track climate related costs?
2. To what extent are budgets adjusted or made flexible to respond to climate related uncertainty?
3. Are climate related financial risks disclosed or communicated to stakeholders (e.g. financiers, community members)? If so, how?
4. How effective do you consider the current accounting practices in helping the business manage climate related financial risk?

Section D: Closing

1. What accounting related changes would you recommend to better manage the financial effects of climate change in future?
2. Is there anything else you would like to add regarding accounting and climate change that we have not covered?

APPENDIX C: STRUCTURED QUESTIONNAIRE

Dear Respondent, this questionnaire is for a school research study about how record-keeping and accounting can help farming businesses cope with the money problems caused by climate change here in Nyamatowa Village. There are no right or wrong answers. Your name will not be written anywhere and your answers will be kept private. Please tick (✓) the box that best fits your answer, or write your answer on the line provided.

Section A: Demographic and Background Information

1. Gender: Male [ ] Female [ ]
2. Age group: 18–30 [ ] 31–45 [ ] 46–60 [ ] Above 60 [ ]
3. Highest level of education: Primary [ ] Secondary [ ] Tertiary [ ] None [ ]
4. Years of involvement with the Village Business Unit / agribusiness activities: Less than 1 year [ ] 1–3 years [ ] 4–6 years [ ] Above 6 years [ ]
5. Role within the agribusiness/Village Business Unit: Owner/Manager [ ] Finance/Accounting staff [ ] Farm worker [ ] Other (specify) _____

Section B: Perceived Impact of Climate Change on Agricultural Productivity and Operational Costs

For each statement below, circle or tick ONE number that shows how much you agree. 1 = I strongly disagree, 2 = I disagree, 3 = I am not sure, 4 = I agree, 5 = I strongly agree.

1. Rain has become harder to predict, and this has lowered how much we are able to grow on the farm. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
2. Drought has made it more expensive for us to water our crops. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
3. Floods have damaged our crops or equipment. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
4. Because of weather problems, it now costs us more money to run the business. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

Section C: Input Price Fluctuations and Budget Variance

1. The prices of farming inputs (seeds, fertiliser, and fuel) go up and down more than before because of the weather. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
2. Because of weather problems, our business has spent more or less money than we had planned in the budget. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
3. Our current budget does not change easily when there are unexpected weather costs. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

Section D: Market Share, Customer Satisfaction and Shareholder Value

1. Weather problems have made us sell less or lose some of our customers. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
2. Our customers are not as happy as before because we cannot always supply them due to the weather. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
3. Money losses caused by weather problems have hurt the value of the business for its owners. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

Section E: Accounting Practices in Use and Their Perceived Effectiveness

1. We keep written records of the extra money we spend because of weather problems. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
2. Our budget can be changed during the year if the weather causes problems. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

3. We tell the people who support our business (lenders, the community) about the money risks caused by weather. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
4. We report on how our business affects, and is affected by, the environment. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
5. The way we currently keep our financial records helps us deal well with weather-related money problems. 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

End of Questionnaire – Thank you for your participation