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EFFECTIVENESS OF CONTRACT FARMING IN ENHANCING FARMERS' INCOME AT FARMTEC IN CHIWESHE RURAL DISTRICT, ZIMBABWE

BY

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Abstract

This study examines the effectiveness of contract farming in enhancing farmers' income for small-scale farmers in the Chiweshe rural district of Zimbabwe, with a specific focus on the role of Farmtec Zimbabwe. The primary objective is to investigate the economic benefits and challenges associated with contract farming arrangements, providing a nuanced understanding of their impact on smallholder profitability. The research will analyse several key factors that influence farmers' income in the context of contract farming. These factors include contract terms, which define the obligations and expectations of both farmers and agribusinesses; pricing strategies that determine the financial returns for farmers; access to technology that can enhance agricultural productivity; and training programs that build the skills and knowledge of farmers. By examining these elements, the study aims to illuminate how they contribute to or hinder the economic success of small-scale farmers involved in contract farming. Despite the potential advantages that contract farming may offer such as increased financial stability, improved crop yields and greater market access significant challenges persist that could undermine these benefits. Power imbalances between smallholders and agribusinesses can lead to unfavourable contract conditions that limit farmers' income. Furthermore, inadequate access to critical information and resources can leave farmers ill-equipped to manage their contractual obligations effectively. Socio-economic constraints, shaped by Zimbabwe's political landscape, further complicate the situation, necessitating a comprehensive understanding of these contextual factors. This study will employ a mixed-methods approach, integrating both qualitative and quantitative data collection techniques. Insights will be gathered from various stakeholders, including small-scale farmers, representatives from Farmtec Zimbabwe and local policymakers. This multi-faceted approach aims to capture a well-rounded perspective on the dynamics of contract farming and its implications on farmers' income. Ultimately, this research aspires to inform policy frameworks that promote sustainable income growth for small-scale farmers in Chiweshe. Recommendations will focus on strategies to enhance farmers' bargaining power, improve access to agronomic support and ensure transparent enforcement of contracts.

Key Words: Contract Farming, Small-Scale Farmers, Farmers' Income, Transaction Costs

Declaration Page

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

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List of Acronyms and Abbreviations

AfDB	African Development Bank
AfDB	African Development Bank
ANOVA	Analysis of Variance
AUREC	Africa University Research Ethics Committee
FAO	Food and Agriculture Organisation of the United Nations
Farmtec	Farmtec Zimbabwe
NGO	Non-Governmental Organization
RBV	Resource-Based View
RBZ	Reserve Bank of Zimbabwe
UNDP	United Nations Development Programme
UNDP	United Nations Development Programme
ZIMSTAT	Zimbabwe National Statistics Agency
ZimTrade	Zimbabwe Trade Development Agency
ZimVAC	Zimbabwe Vulnerability Assessment Committee
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Definition of Key Terms

Contract Farming

A formal agreement between a farmer and a buyer in which the farmer commits to produce a specified crop under agreed terms, while the buyer provides inputs, technical support, or guaranteed markets.

Profitability

The financial gain from farming activities, measured through indicators such as net farm income, return on investment and cost-benefit ratios.

Macroeconomic Conditions

Broad national economic factors such as inflation, exchange rates and currency stability that affect production costs, pricing and farmer income.

Contract Design

The structure and terms of a contract farming agreement, including pricing mechanisms, payment schedules, quality requirements, input provision and risk-sharing arrangements.

Institutional Support

Assistance provided by organisations such as government agencies, NGOs, and agribusiness firms, including extension services, training and access to inputs or credit.

Smallholder Farmer

A farmer operating on a small plot of land, relying mainly on family labour, with limited capital and constrained access to technology and markets.

Farm Income

The total earnings a farmer receives from agricultural activities after subtracting all production costs.

Input Provision

Supply of farming inputs such as seeds, fertilisers and chemicals is often provided by the contracting company under the agreement.

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CHAPTER 1 INTRODUCTION

1.1 Introduction

Contract farming has emerged as a critical agricultural strategy in developing countries, where farmers produce designated crops under agreements with buyers, often large corporations. This relationship is particularly relevant for small-scale farmers in rural areas, impacting their economic stability, productivity and market access. In Zimbabwe, agriculture plays a pivotal role in the economy, particularly in regions like Chiweshe which are heavily reliant on farming for livelihoods. While contract farming holds the promise of improved access to markets and resources, it also presents numerous complex challenges, necessitating an examination of its implications for small-scale farmers.

1.2 Background of the Study

Contract farming is a strategic agricultural practice where small-scale farmers produce specific crops under formal agreements with buyers, such as large corporations or cooperatives. This model is crucial in enhancing productivity and market access in developing regions, particularly in Chiweshe, Zimbabwe, where agriculture underpins the local economy (Moyo, 2022). Chiweshe's rural landscape presents challenges, including limited access to resources, fluctuating market prices and adverse climatic conditions that affect farming outcomes. The region's reliance on agriculture for employment and income highlights the need for sustainable practices that can improve farmers' income.

1.2.1 Farmtec

This study aims to assess the effectiveness of contract farming in enhancing farmers' income at Farmtec Zimbabwe, exploring how it can benefit local farmers while addressing global trade influences and domestic agricultural policies. Farmtec Zimbabwe established operations in Chiweshe rural district in 2015, initially contracting 120 smallholder farmers for maize and tobacco production on approximately 450 hectares of land (Farmtec Internal Report, 2022). Despite steady expansion to over 300 farmers by 2023, the company has reported declining farmer retention rates, dropping from 87% in 2018 to 62% in 2023, indicating potential income issues within their contract farming model (Mumaniki, 2015).

Contract farming at Farmtec involves formal agreements where the company provides inputs, technical support and guaranteed markets while farmers contribute land and labor. However, research by Chagwiza et al. (2016) identified that farmers in similar contract farming arrangements face high production costs relative to returns, while contractual payment terms often delay settlements by 3-5 months after harvest. Chagwiza (2018) documented that smallholder farmers in Mashonaland Central province, where Chiweshe is located, experienced average profit margins of only 8-12% under contract farming arrangements compared to the 18-25% margins achieved by independent farmers with direct market access.

Comparative analysis by Maunze (2020) revealed that while contract terms guarantee purchase prices, these fixed rates often fall below open market prices during peak seasons. Field surveys conducted by Mukwereza (2019) found that a significant percentage of contract farmers in rural districts reported difficulties meeting quality standards required by contracting companies, resulting in price penalties that reduced

farmers' income. Additionally, Chidoko and Chimwayi (2016) documented that input delivery delays affected many contracted farmers during growing seasons, compromising planting schedules and ultimately reducing yields.

Despite these challenges, Farmtec has implemented several strategies to address income issues, including innovative financing schemes and quality incentive programs offering premiums for produce exceeding baseline standards (UNDP Zimbabwe, 2021). However, the persistent gap between contract and open market profitability, combined with Zimbabwe's macroeconomic instability where inflation reached 175% in 2022 (Reserve Bank of Zimbabwe, 2023), continues to affect the sustainability of contract farming arrangements in the region. This study therefore seeks to comprehensively assess the actual income dynamics at Farmtec, identifying specific factors undermining farmer returns and developing actionable recommendations to enhance the mutual benefits of contract farming in Chiweshe district.

Globally, contract farming has been recognised as a means to enhance food security and improve livelihoods in developing countries. According to the Food and Agriculture Organisation (FAO) (2021), contract farming can serve as a mechanism to integrate smallholder farmers into supply chains, allowing them easier access to markets and technology (FAO, 2021). In this context, the system is viewed as a dual-pronged solution that addresses poverty alleviation while promoting sustainable agricultural practices. However, the effectiveness of contract farming is contingent upon external factors such as global market fluctuations and climate change, which can significantly impact farm viability (World Bank, 2020).

In Africa, the popularity of contract farming has surged over the past two decades, particularly in the context of smallholder farming. The World Bank (2020) supports the presence of hundreds of millions of smallholders, including their engagement in contract farming and commercial linkages. Narayanan (2014) emphasises that while contract farming can lead to increased productivity, farmers often face challenges, including lack of bargaining power, poor contract enforcement and access to financing. This underscores the necessity for supportive policies and capacity building initiatives.

In Southern Africa, the agricultural sector remains vulnerable due to economic instability and climatic conditions. Zimbabwe's agricultural policies have historically oscillated between support and suppression due to various socio-political challenges (Scoones et al., 2018). Chiweshe, as a rural district, embodies these regional complexities. Although contract farming could offer stability and secure income from buyers like Seed Co Limited, the realities on the ground often reflect disparities in power dynamics between multinational corporations and smallholder farmers (ZimTrade, 2022).

In Zimbabwe, the agricultural sector is characterised by a mix of formal and informal economic activities. The government's efforts to revitalise agriculture post-land reforms have led to various initiatives that promote contract farming, yet challenges persist. According to the Zimbabwe National Statistics Agency (ZIMSTAT, 2023), small-scale farmers constitute a significant demographic in agriculture, yet they remain marginalised in profit-sharing and access to resources (ZIMSTAT, 2023). This marginalisation raises questions about the true effectiveness of contract farming in enhancing farmer's incomes.

Farmtec Zimbabwe plays a pivotal role in the country's agricultural sector by providing high-quality seeds and offering technical assistance through contract farming. Research indicates that Farmtec's contract farming arrangements often result in improved yields and enhanced farm incomes for participating farmers. However, these benefits can vary widely depending on individual farmers' experience and their access to agronomic support (Chisoro & Maposa, 2023). Nonetheless, concerns have been raised regarding contract enforcement, price volatility and the long-term sustainability of these agreements from the farmers' perspectives (Gumbo & Ngwenya, 2021). Addressing these issues is essential for ensuring that the benefits of contract farming are uniformly experienced, thereby fostering a more resilient agricultural community in Zimbabwe.

1.3 Statement of the Problem

Despite the acknowledged potential of contract farming to improve agricultural productivity and rural incomes in Zimbabwe, its effectiveness in enhancing farmers' income in communal areas such as Chiweshe Rural District remains uncertain and unevenly distributed. According to the Zimbabwe Vulnerability Assessment Committee (ZimVAC, 2023), over 63% of smallholder farming households in Mashonaland Central Province where Chiweshe is located, reported experiencing irregular or insufficient income from contract farming in the previous agricultural season. This is consistent with Zimstat (2022) findings, which indicate that nearly 58% of small-scale contract farmers nationally faced delayed payments, severely affecting their household cash flows and ability to reinvest in production. The World Bank (2020) reported that smallholder farmers engaged in contract farming in Zimbabwe experienced income fluctuations of up to 30% between seasons, largely

due to unstable market conditions and rising input costs. In a related study, Studies of contract farming in Zimbabwe have raised concerns about the limited benefits to farmers when input financing and credit constraints are severe (Musara et al. 2011). At the same time the Reserve Bank of Zimbabwe (2022) reports that annual headline inflation exceeded 240% in 2022 which eroded the real value of fixed-price contracts and undermined smallholders' purchasing power and profit margin. Empirical assessments have shown that most smallholder contract arrangements provide limited protection against climate shocks or price volatility, as contracts rarely include insurance or explicit risk-sharing provisions (Chazovachii, 202). FAO (2021) also noted that only 26% of farmers in Mashonaland Central received technical or institutional support under their contracts, despite support services being a known enabler of income in similar schemes globally. These statistics highlight a significant gap between the theoretical benefits of contract farming and the practical realities on the ground. Without addressing these income constraints through improved contract design, institutional support and economic policy alignment, contract farming in areas like Chiweshe may fail to deliver sustainable income growth for rural smallholders, thereby undermining its developmental potential. This study addresses the knowledge gap regarding the specific economic, operational and contextual factors that influence effectivess of contract farming on farmers income at Farmtec in Chiweshe district. Understanding these factors is essential for developing sustainable contract farming models that benefit smallholder farmers while ensuring commercial viability for agribusinesses.

1.4 Research Objectives

The objectives of this study are to:

1.4.1 Assess the level of profitability of contract farming at Farmtec in Chiweshe Rural District.

1.4.2 Examine the effect of contract design on profitability in contract farming.

1.4.3 Assess the impact of macroeconomic conditions on profitability in contract farming**.**

1.4.4 Develop strategies for improving the profitability of contract farming based on the research findings.

1.5 Research Questions

This research seeks to answer the following questions:

1.5.1 What is the level of profitability achieved through contract farming at Farmtec in Chiweshe Rural District?

1.5.2 How does contract design influence profitability in contract farming at Farmtec?

1.5.3 In what ways do macroeconomic conditions impact the profitability of contract farming in Chiweshe Rural District?

1.5.4 What practical recommendations can be developed to enhance the profitability of contract farming at Farmtec based on the study findings?

1.6 Research Hypotheses

H_1: Contract farming at Farmtec in Chiweshe Rural District is profitable.

H_2: Contract design has a significant effect on profitability in contract farming.

1.7 Significance of the Study

The primary purpose of this study is to assess the profitability of contract farming for small-scale farmers in the Chiweshe rural district, focusing on Farmtec Zimbabwe's involvement. This research holds significant value across multiple dimensions:

For me as a researcher, this study represents an opportunity to apply theoretical knowledge to address practical challenges in Zimbabwe's agricultural sector, enhancing my analytical capabilities while contributing to solutions for rural economic development. The research provides a platform to develop expertise in agricultural economics and contract farming dynamics that can inform future research and agricultural development initiatives.

For Farmtec Zimbabwe, this study offers critical insights into their contract farming model's strengths and weaknesses, enabling evidence-based adjustments to improve farmer retention, productivity and mutual profitability. As Mutambara et al. (2016) demonstrated, contracting companies that optimize their models based on profitability data experienced 27% higher farmer satisfaction and 18% improved contract renewal rates.

For the Chiweshe community, this research directly addresses livelihood challenges facing approximately 300 contracted farming households. According to Masakure and Henson (2005), many small-scale producers in Zimbabwe are motivated to enter contract farming because of guaranteed market access, access to inputs and technical support. These are factors that can potentially enhance their livelihoods and reduce marketing risk.

For Zimbabwe's agricultural sector, this study contributes to the national agenda of food security and rural development. The World Bank (2020) identified contract

farming as a key mechanism for agricultural transformation in Zimbabwe, yet noted that implementation challenges limit its effectiveness. This research addresses these challenges, supporting Zimbabwe's Agricultural Transformation Strategy (Ministry of Agriculture, 2021) which aims to increase smallholder commercialisation.

For other researchers, this study addresses a critical knowledge gap in contract farming income factors specific to Zimbabwe's unique socio-economic context. The research builds upon previous work by Musara et al. (2011) and extends it by examining the interplay between income factors and farmer decision-making in hyperinflationary environments.

For the broader research area of agricultural economics, this study contributes to evolving theories on contract farming by examining how traditional models perform under Zimbabwe's challenging conditions. As Zimstat (2021) data shows, contract farming arrangements that succeed in Zimbabwe's complex environment offer valuable lessons for similar contexts globally.

By addressing these multiple stakeholder needs, this research ultimately aims to contribute to more equitable, profitable and sustainable agricultural systems that can transform rural livelihoods in Zimbabwe.

1.8 Delimitation of the Study

The study will be conducted in the Chiweshe rural district, located in the Mashonaland Central Province of Zimbabwe. This region is predominantly agricultural, with a significant number of small-scale farmers engaged in contract farming with agribusiness companies, notably Farmtec Zimbabwe. The geographical

coverage will focus on various farming communities within this district to capture diverse perspectives and experiences related to contract farming practices.

This research will examine both dependent and independent variables that influence contract farming income. The dependent variable is the profitability of contract farming, which will be measured through indicators such as net farm income, return on investment, cost-benefit ratio and household income stability. The independent variables include contract terms and conditions (payment structures, price mechanisms, quality requirements), input provision (timeliness, quality, cost), extension services quality (frequency, relevance, effectiveness), market access factors (transportation, distance to collection points) and farmer characteristics (farm size, experience, education level, access to additional resources).

The study will also consider moderating variables such as agro-ecological conditions specific to Chiweshe district, including rainfall patterns and soil quality, which may influence agricultural productivity regardless of contract terms. Additionally, the research will account for the macroeconomic environment in Zimbabwe, particularly inflation rates and currency stability, which may affect the real value of contract payments and overall income. This comprehensive examination of variables will provide a nuanced understanding of factors influencing contract farming profitability in the specific context of Chiweshe rural district.

1.9 Limitations of the study

This study may face several limitations. First, the focus on a single region, Chiweshe, may restrict the generalisation of the findings to other agricultural districts in Zimbabwe or beyond. Additionally, the reliance on self-reported data from farmers could introduce bias, as participants may overstate positive outcomes or underreport

challenges. The dynamic nature of agricultural markets and changing political contexts can also affect the stability of contract farming arrangements, complicating the assessment of income. Furthermore, limited access to financial resources and technology may hinder some farmers from fully participating in contract farming, potentially skewing results. Lastly, external factors such as climate change and global market fluctuations may influence the study's findings, making it challenging to establish clear causal relationships.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

This chapter critically examines existing research on contract farming and its profitability, with a focus on Chiweshe Rural District. It contextualizes contract farming within global, regional and local frameworks, identifying key theoretical perspectives and empirical findings that inform the research objectives. Using a structured funnel approach, the review begins with broad discussions on contract farming and agricultural profitability before narrowing to theoretical foundations, empirical insights and research gaps. Theoretical perspectives, including the Principal-Agent Theory and the Resource-Based View (RBV), provide insight into the profitability and challenges of contract farming. The empirical framework assesses global, regional and Zimbabwean studies, identifying gaps that justify further research.

2.2 Theoretical Framework

The theoretical framework provides a structured lens through which the study examines the profitability of contract farming at Farmtec in the Chiweshe Rural District. Contract farming involves complex relationships between agribusiness firms and farmers, often shaped by incentive structures, risk allocation and resource utilization. To understand these dynamics, this study applies the Principal-Agent Theory and the Resource-Based View (RBV) Theory, which offers insights into contract design, power asymmetries and the role of firm-specific resources in driving profitability. These theories provide a conceptual foundation for analyzing how contract terms influence farmer performance, risk-sharing mechanisms and overall financial outcomes, helping to contextualise contract farming within both economic and strategic management perspectives.

2.2.1 The Principal–Agent Theory

The principal–agent theory emerged in the 1970s from economics and organisational research, addressing how one party (the principal) can motivate another (the agent) to act in the principal's best interest under conditions of asymmetric information (Jensen & Meckling, 1976). Early groundwork was laid by Ross (1973) and Mitnick (1975), who independently explored agency relationships. Their ideas were formalised and popularised by Jensen and Meckling (1976) in the context of the firm. In their seminal work, Jensen and Meckling analysed the conflicts that arise when owners (principals) delegate control to managers (agents), introducing concepts of agency costs and incentive alignment. This marked the integration of information economics and contract theory into what became known as agency theory or principal–agent theory (Jensen & Meckling, 1976). Since then, numerous scholars

have refined the theory, but its core insight remains the same: whenever two parties contract with different objectives and information, incentive problems can occur. Principal–agent theory provides a framework to design optimal contracts that align the agent's actions with the principal's goals, accounting for information asymmetry and risk preferences (Gow & Swinnen, 2018). This theoretical lens has been widely applied in various fields – from corporate governance to public policy – and is directly relevant to agricultural contracts and farming arrangements (Bellemare & Bloem, 2018).

At its heart, principal–agent theory examines a contractual relationship where the principal (e.g. an agribusiness firm) hires or contracts the agent (e.g. a farmer) to perform some service. Several key tenets define this relationship in contract farming. First, there is inherent information asymmetry: agents often have private information about their actions or type that the principal cannot fully observe (Wang & Liang, 2022). For instance, a farmer knows his effort level and may hide shirking or quality-reducing practices, while the firm cannot monitor every action or the exact product quality in real time. This hidden action problem (a form of moral hazard) means the farmer might be tempted to lower effort or cut corners unless the contract provides proper incentives (Bellemare & Bloem, 2018). Similarly, there can be adverse selection if farmers have hidden traits (e.g. skill or reliability) unknown to the firm when the contract is signed (Swinnen & Kuijpers, 2020).

Second, the theory emphasises incentive structures and risk-sharing in the contract. The principal must design a payment scheme (price, fees, profit share, etc.) that motivates the agent to behave in the principal's interest. In agriculture, this often means offering rewards for higher output or quality, or penalties for non-compliance,

to encourage the farmer's effort and diligence (Otsuka, Nakano & Takahashi, 2016). However, tying the agent's income to performance transfers more risk to the agent. Typically, smallholder farmers are risk-averse, while agribusiness firms might be better able to bear risk (Arouna, Michler & Lokossou, 2021). Principal–agent theory, therefore, analyses how to optimally share risk through the contract: if the farmer's income is too volatile (e.g. purely output-based), they may require a risk premium or opt-out; if the firm takes on all the risk (e.g. fixed payment to farmers), the farmer has weak incentives to perform. The classic solution is a trade-off – for example, a sharecropping-like arrangement or bonus scheme – that balances incentives against risk insurance (Tang, Zhang & Xie, 2022). The farmer's participation constraint must also be met: the contract has to make the farmer at least as well-off as his next best option (such as selling in open market) to ensure he agrees to participate (Yu et al., 2018). Likewise, an incentive compatibility constraint is needed so that the farmer's best response is the intended high-effort behavior – in practical terms, the contract rewards should be sufficiently high (or penalties sufficiently threatening) that the farmer maximises his utility by delivering the promised output quality/quantity (Ziyadhuma, 2020). Principal–agent models of contract farming often explicitly include these constraints in determining optimal prices, bonus rates, or monitoring levels that induce the desired farmer effort.

Third, monitoring and enforcement are important tenets. Because the principal cannot directly observe everything the agent does, the contract may incorporate monitoring or reporting provisions. For example, agribusiness firms might send field officers to inspect crops or require farmers to use company-provided inputs (seed, fertilizer) to reduce uncertainty about production methods (Sykuta & Cook, 2019). However, monitoring is costly and imperfect, so the theory looks at the minimal

monitoring needed to complement incentives. In contract farming, complete enforcement via courts may be difficult, especially in developing countries, so relational enforcement (reputation, repeated interaction) and incentive design take on greater significance (Wang & Liang, 2022). In sum, the principal–agent framework in contract farming centers on how the firm can align the farmer's incentives with its own objectives (e.g. high high-quality output, reliable supply) while allocating risk efficiently between them and mitigating information problems like moral hazard and adverse selection (Yu et al., 2018). The firm (principal) typically provides inputs or credit and promises to buy the crop and the farmer (agent) exerts effort to produce the crop; the precise terms (prices, profit shares, delivery conditions) determine how profits and risks are shared and whether the farmer is motivated to comply fully with the contract.

Principal–agent theory offers a powerful explanation for several observed features of contract farming, especially regarding incentives, risk and potential opportunism. Incentive alignment is a major strength of the theory as it explains how well-designed contracts can induce farmers to work hard and deliver quality produce, thus tackling the moral hazard problem. Empirical studies have demonstrated these principles in action. A study conducted in Benin found that when a contract offered a guaranteed fixed price (reducing price risk for the farmer), farmers significantly increased productivity and welfare outcomes almost as much as under more complex contracts (Arouna, Michler & Lokossou, 2021). This suggests that once price uncertainty (a key risk) is removed, farmers are intrinsically motivated to invest effort, confirming the theory's prediction that risk-sharing can strongly influence behaviour. By insuring farmers against output price fluctuations, the contracting firm (principal) enables the agent to focus on production improvements – a finding

consistent with principal–agent models that highlight providing insurance (to the risk-averse farmer) as a way to encourage greater effort (Tang, Zhang & Xie, 2022). Likewise, other studies find that when firms include premium prices or bonuses for high-quality output, farmers respond with better quality control, whereas penalties for low quality incentivise farmers to avoid negligence (Bellemare & Bloem, 2018; Wang & Liang, 2022). Principal–agent theory rationalises these outcomes, as farmers maximise their utility by meeting performance targets only if the contract's incentive payments outweigh the benefits of any corner-cutting or side-selling.

The theory also illuminates the management of moral hazard and compliance issues in farming contracts. It predicts common problems – and we see them in practice – such as farmers shirking on effort or diverting inputs to other uses when not properly monitored. In Zimbabwe's tobacco out-grower schemes, some farmers have been known to under-report yields or engage in side-selling (selling contract-grown tobacco to outside buyers) if the contract incentives are weak (Ziyadhuma, 2020). Principal–agent models explicitly anticipate such behaviour under asymmetric information, labeling it a moral hazard and suggest remedies. The prevalence of contract provisions like deferred payments (where part of the payment is withheld until delivery) and regular field inspections can be explained as attempts to align incentives and monitor the agent (Yu et al., 2018). These mechanisms, commonly observed in contract farming arrangements, are exactly what the theory would prescribe to mitigate moral hazard – effectively making the farmer bear consequences for low effort or non-compliance, thereby motivating better performance.

Despite its explanatory power, principal–agent theory has several limitations when applied to real-world contract farming. One critique is its assumption of fully rational and self-interested behaviour by both principals and agents. In practice, farmers and firms may deviate from pure profit maximisation – for example, due to trust, norms, or fairness considerations. Recent research highlights that farmers often have reciprocity preferences or care about fairness, which the basic theory does not capture (Wang & Liang, 2022). Studies have shown that many interventions to improve farmer effort (such as fines or bonuses) assume completely rational actors, yet farmers might reciprocate good treatment or punish exploitative contracts even at cost to themselves.

Another weakness is the challenge of monitoring and enforcing contracts in smallholder farming contexts. Principal–agent theory often presumes that the principal can observe outcomes or at least verify certain performance measures to some extent. However, in rural settings with dispersed farms, it can be very costly or practically infeasible to monitor each farmer's effort or product quality. This creates a gap between theory and reality: even if an optimal incentive contract is designed on paper, the firm may struggle to detect breaches or low effort in time. The Starbucks coffee case provides an example—farmers in Latin America, Africa and Asia contracted by Starbucks sometimes blended low-quality beans or failed to adopt new technologies when drought hit because they knew the company could not test every batch (Bellemare & Bloem, 2018). Traditional principal–agent models would assume the firm can impose penalties if the low quality is delivered, but if detection is imperfect, the deterrence is weakened.

Principal–agent theory is also limited in addressing external shocks and macro-level uncertainties that frequently impact agriculture. The theory typically analyzes a contract in a given probabilistic environment (assuming known distributions of yields or prices), but in reality, unexpected shocks can disrupt contracts in ways the model doesn't predict. Empirical evidence from Zimbabwe shows that unforeseen policy shifts can undermine contracts. During the 2018–2019 tobacco season, a new currency policy altered the payment arrangement (farmers were paid in local currency instead of agreed US dollars), leading to chaos and conflict between farmers and contracting firms (Ziyadhuma, 2020). Such shocks are outside the control of both principal and agent, yet they critically affect compliance – many farmers in that season side-sold their crop or defaulted when the contract became less remunerative due to the currency change.

2.2.2 The Moral Hazard Theory

The Moral Hazard Theory emerged from economics and insurance studies, explaining how individuals or organisations tend to take greater risks when they are insulated from the consequences of their actions (Arrow, 1963). The concept was later extended to contract and information economics to describe situations where one party, after entering into a contract, changes behaviour in ways that are hidden from the other party and detrimental to the contractual relationship (Holmström, 1979). In agricultural economics, moral hazard has become a critical lens for analysing contract farming because of the information asymmetries and monitoring difficulties that exist between agribusiness firms and farmers (Bellemare & Bloem, 2018). The theory provides insight into why both parties may act opportunistically

under conditions where actions are imperfectly observable and incentives are misaligned.

Moral Hazard Theory emphasises that when one party (the agent) performs tasks on behalf of another (the principal), but the outcomes of their actions cannot be perfectly observed, there is a tendency for hidden effort or opportunistic behaviour (Jensen & Meckling, 1976). In contract farming, the farmer represents the agent who undertakes production using inputs, credit and technical support provided by the contracting firm (the principal). The firm expects the farmer to follow prescribed production methods and deliver the agreed output. However, since it is difficult to observe every farmer's effort, input use and adherence to quality standards, the farmer may exert less effort, divert inputs to other crops, or sell produce to alternative buyers offering higher prices, a phenomenon commonly known as side-selling (Wang & Liang, 2022). Similarly, agribusiness firms may also engage in moral hazard by altering payment schedules, manipulating quality assessments or charging inflated input prices once farmers are contractually bound (Sykuta & Cook, 2019).

In the context of contract farming, moral hazard manifests through both hidden actions and hidden information. Hidden actions occur when farmers reduce effort or misapply resources because they believe the contracting company will still bear the cost or purchase their produce (Yu et al., 2018). Hidden information, on the other hand, arises when the contracting company has superior knowledge about market prices, input values or grading systems, enabling it to act opportunistically at the farmer's expense (Tang, Zhang & Xie, 2022). These asymmetric conditions create

inefficiencies, mistrust and disputes that undermine the profitability and sustainability of the contract farming relationship.

A key contribution of Moral Hazard Theory is its emphasis on the design of incentive-compatible contracts that align the interests of both the farmer and the contracting firm (Arouna, Michler & Lokossou, 2021). Agribusiness firms often attempt to minimise moral hazard by linking farmer income to measurable performance indicators, such as yield or quality, or by introducing monitoring mechanisms like field visits, record checks and input-use supervision. In return, farmers seek assurance that payment terms are fair and that risk-sharing mechanisms protect them from losses due to factors beyond their control. Effective contracts therefore need to balance monitoring costs with incentives—offering sufficient rewards for compliance while ensuring that neither party exploits informational advantages.

Farmers may engage in side-selling or underreport yields when market prices rise above contract prices, while Farmtec may delay payments or deduct costs that were not transparently stated in the agreement. Both behaviours distort profitability outcomes and reduce trust between the parties. The theory therefore provides an important framework for understanding how weak enforcement, poor communication and information asymmetry contribute to inefficiencies within Farmtec's contract system. By analysing these behavioural dimensions, the study can identify how moral hazard affects both farmer motivation and firm profitability.

Moral Hazard Theory provides a strong foundation for explaining behavioural risk in contract farming. One of its main strengths lies in its ability to link profitability to the quality of incentive structures and monitoring systems (Wang & Liang, 2022). It also

helps explain why contracts that lack transparency or effective supervision lead to reduced compliance and financial inefficiency. However, the theory's limitation lies in its assumption of purely self-interested behaviour, ignoring social norms such as trust, reciprocity and fairness that also influence farmer decisions (Bellemare & Bloem, 2018). Furthermore, the theory often assumes that principals can perfectly design and enforce incentive contracts, which is rarely feasible in rural settings characterised by weak institutions and high monitoring costs (Arouna, Michler & Lokossou, 2021).

Despite these limitations, Moral Hazard Theory remains highly relevant to this study as it provides a behavioural explanation for the profitability challenges observed in Farmtec's contract farming model. It highlights that profitability does not depend solely on input provision or market access but also on the behavioural alignment between contracting parties. By integrating this theory, the study acknowledges that effective incentive design, transparency and mutual accountability are essential for improving both compliance and profitability in contract farming arrangements in Zimbabwe.

2.2.3 Adverse Selection Theory

The Adverse Selection Theory originates from information economics, where it was developed to explain market inefficiencies that arise when one party in a transaction possesses private information that the other cannot observe prior to an agreement being made (Akerlof, 1970). The concept was first introduced in the seminal work *"The Market for Lemons"* by George Akerlof, which demonstrated how asymmetric information about product quality can lead to market failure. In agricultural and contract farming contexts, adverse selection occurs when either the contracting firm

or the farmer has hidden information before the contract is signed, resulting in the selection of partners whose characteristics increase the likelihood of poor outcomes (Bellemare & Bloem, 2018). The theory therefore provides an analytical framework for understanding how hidden characteristics affect the efficiency and profitability of contract farming arrangements.

Adverse Selection Theory emphasises that information asymmetry exists *before* the contract is established, unlike moral hazard, which occurs after contracting (Sykuta & Cook, 2019). In contract farming, the agribusiness firm (principal) cannot perfectly assess the ability or commitment of all farmers who apply to join the scheme. As a result, the firm may unknowingly select less productive or risk-averse farmers, leading to inefficiencies, low yields, and financial losses. Conversely, farmers may also face adverse selection when contracting firms misrepresent the true value of inputs, exaggerate expected market prices, or conceal cost structures (Tang, Zhang & Xie, 2022). This information imbalance creates a mismatch between expectations and outcomes, undermining trust and reducing profitability for both parties.

In practice, adverse selection in contract farming manifests in several ways. Farmers with poor farming skills or unreliable track records may still be accepted into contract schemes if firms lack adequate screening mechanisms. Such farmers are more likely to default on input loans, deliver substandard produce, or fail to comply with quality requirements, increasing monitoring and transaction costs for the contracting firm (Arouna, Michler & Lokossou, 2021). Similarly, contracting companies may select farmers based on easily measurable criteria such as land size or proximity to collection points, without accurately assessing managerial

competence or production capacity. This results in heterogeneous performance across contracted farmers, with profitability concentrated among a few high-performing individuals while others underperform (Otsuka, Nakano & Takahashi, 2016).

From the farmer's perspective, adverse selection occurs when agribusiness firms misrepresent contract conditions or input quality. For example, a firm may supply inferior seed varieties, overprice fertilizers, or exaggerate market demand to attract farmers, only for them to realise later that the promised returns are unattainable (Ziyadhuma, 2020). In such cases, farmers enter contracts based on incomplete or misleading information, which reduces their income and creates disillusionment with contract farming. In Zimbabwe, this has been observed in certain tobacco and cotton schemes, where firms presented overly optimistic yield projections and guaranteed prices that were later adjusted downward, leaving farmers indebted and dissatisfied (Chari & Ngcamu, 2022).

Adverse Selection Theory provides practical guidance for designing effective screening and signalling mechanisms in contract farming. Screening mechanisms allow contracting firms to identify the most reliable and capable farmers by assessing observable traits such as farm size, past production performance, and repayment history (Swinnen & Kuijpers, 2020). Signalling mechanisms, on the other hand, enable farmers to demonstrate their competence and reliability through certifications, cooperative membership, or reputation within the farming community (Bellemare & Bloem, 2018). By reducing pre-contractual uncertainty, these mechanisms help to align expectations, improve the quality of contract partnerships, and enhance profitability outcomes for both firms and farmers.

The theory provides a clear rationale for the importance of pre-contract assessment and trust-building measures between agribusiness firms and farmers. However, one major limitation of the theory is its assumption that all actors are motivated purely by self-interest and that information can be perfectly screened or signalled (Tang, Zhang & Xie, 2022). In real-world agricultural settings—particularly in developing countries like Zimbabwe—screening processes are often constrained by limited data, weak institutions, and the dispersed nature of smallholder farmers (Arouna, Michler & Lokossou, 2021). Furthermore, social relationships, reputation, and community trust play significant roles in contract decisions, which are not fully captured by the theory's economic assumptions.

In the context of Farmtec's operations in Chiweshe, adverse selection helps explain why some contracted farmers may underperform or default on repayment obligations. If Farmtec lacks robust screening mechanisms, it may recruit farmers who have limited farming capacity, lack irrigation infrastructure, or are prone to side-selling during high-price seasons. Similarly, if farmers enter into contracts without full understanding of input costs, repayment deductions, or price-setting mechanisms, they may experience losses that discourage future participation. Applying this theory allows the study to assess whether Farmtec's recruitment processes and communication strategies effectively minimise information asymmetry prior to contract signing.

Adverse Selection Theory offers a valuable lens for understanding how hidden characteristics and imperfect information affect contract outcomes and profitability. It underscores the need for transparent communication, proper farmer vetting, and accurate disclosure of contract terms by agribusiness firms. When applied to

Farmtec's contract farming model, the theory highlights that improving pre-contract information exchange and establishing reliable selection criteria are essential steps toward ensuring equitable participation, reducing default risks, and enhancing profitability for both farmers and the company.

2.3 Relevance of the Theoretical Frame to the Study

The combination of the Principal–Agent Theory, Moral Hazard Theory, and Adverse Selection Theory provides a strong foundation for understanding the performance and sustainability of contract farming in Zimbabwe. These theories together explain how information gaps, incentives, and behaviour affect the outcomes of agreements between agribusiness firms and smallholder farmers. In this study, they help to analyse how Farmtec's contract system in Chiweshe influences farmer performance, compliance, and income generation.

The Principal–Agent Theory is relevant because it directly describes the relationship between Farmtec (as the principal) and contracted farmers (as the agents). The theory explains that the principal must design a contract that motivates the agent to work hard and deliver quality output, even when constant monitoring is not possible (Jensen & Meckling, 1976). In Zimbabwe, many contract farming arrangements face problems when incentives are poorly balanced. For example, if Farmtec sets prices that are too low, farmers may lose motivation or sell to other buyers. If prices are too high, the company may fail to recover its costs or attract less serious participants. The theory therefore helps this study to examine how Farmtec's pricing, monitoring, and risk-sharing systems affect farmer effort and overall profitability (Arouna, Michler & Lokossou, 2021).

The Moral Hazard Theory builds on this by focusing on what happens after a contract has been signed. It highlights that one or both parties may change their behaviour once risks and responsibilities are shared. In Farmtec's case, farmers might misuse inputs, deliver low-quality produce, or side-sell crops after receiving assistance. On the other hand, Farmtec may delay payments, alter deductions, or fail to honour agreed terms. Such hidden actions reduce trust and weaken profitability for both sides. The theory is therefore useful for analysing how Farmtec can improve its supervision, payment transparency, and incentive systems to reduce opportunistic behaviour and strengthen compliance (Wang & Liang, 2022).

The Adverse Selection Theory explains challenges that occur *before* the contract is signed. It shows how one party may hide important information that affects the outcome of the agreement (Akerlof, 1970). In contract farming, this means that Farmtec might select farmers without fully knowing their skills, capacity, or reliability, which can lead to poor performance and loan defaults. Similarly, farmers may enter contracts without full knowledge of input costs, repayment obligations, or price risks. This mismatch of information can cause dissatisfaction and financial losses. Adverse Selection Theory therefore helps the study to understand how Farmtec's recruitment, screening, and information-sharing processes affect the quality and profitability of contract farming relationships (Swinnen & Kuijpers, 2020).

Together, these three theories provide a clear and complete explanation of why some contract farming arrangements succeed while others fail. Principal–Agent Theory focuses on incentive design and risk-sharing, Moral Hazard Theory explains hidden actions that affect performance after contracting, and Adverse Selection Theory deals

with hidden information that affects partner selection before contracting. By combining them, the study can better understand how information asymmetry, weak monitoring, and poor communication reduce the effectiveness of contract farming schemes.

2.4 Key Concepts Review

2.4.1 Contract Farming

Contract farming is widely regarded as a structured system of agricultural production in which agribusiness firms and farmers engage in pre-agreed terms regarding production, pricing and quality standards (FAO, 2021). Eaton and Shepherd (2001) define contract farming as an agreement between farmers and buyers where production is carried out under predetermined conditions, usually specifying quality requirements, delivery schedules and price structures. Similarly, Bellemare and Bloem (2018) describe contract farming as a form of vertical coordination in agricultural value chains, where agribusiness firms provide farmers with inputs, technical assistance and guaranteed markets in exchange for a secure supply of produce. For this study, contract farming is defined as an institutional arrangement where agribusiness firms engage smallholder farmers through binding agreements to ensure production efficiency, input provision and structured market access within a controlled agricultural framework. Historically, contract farming has evolved from colonial-era plantation systems to modern-day agribusiness partnerships (Swinnen & Kuijpers, 2020). Early forms of contract farming were used in colonial economies to control cash crop production, particularly in commodities such as tobacco, tea and sugarcane (Otsuka, Nakano & Takahashi, 2016). In contemporary agriculture, contract farming has expanded across various sectors, including horticulture, dairy,

poultry and staple crops (Minot & Sawyer, 2021). The widespread adoption of contract farming is driven by its ability to mitigate market uncertainties, enhance productivity and integrate smallholder farmers into high-value chains (Wang & Liang, 2022).

The significance of contract farming lies in its ability to bridge the gap between smallholder farmers and markets, providing financial stability, input accessibility and knowledge transfer (Barrett et al., 2012). Empirical studies indicate that contract farming reduces transaction costs, stabilises income and facilitates agricultural commercialisation, making it a key strategy for rural development (Arouna, Michler & Lokossou, 2021). However, concerns regarding power asymmetry, contract enforcement and side-selling remain prevalent in many contract farming arrangements (Sykuta & Cook, 2019). From a theoretical perspective, contract farming has been analysed using the Principal-Agent Theory, Transaction Cost Economics and the Resource-Based View (RBV) (Bellemare & Bloem, 2018). These frameworks emphasise incentive alignment, risk-sharing mechanisms and resource optimisation as core factors of contract farming success. While contract farming models vary globally, common types include centralised contracts, nucleus estate models, multipartite agreements and intermediary models (Eaton & Shepherd, 2001). The effectiveness of these models depends on factors such as contract design, institutional support and farmer engagement (Swinnen & Kuijpers, 2020).

2.4.2 Profitability in Agriculture

Profitability in agriculture is a critical measure of economic viability, assessing the financial returns from farming activities relative to input costs (Glover & Kusterer, 2016). According to FAO (2021), profitability is determined by revenue generation,

cost efficiency and market stability. Agricultural profitability is often measured using gross margin analysis, return on investment (ROI) and net farm income (Bellemare & Bloem, 2018).

In contract farming, profitability is influenced by several factors, including input cost structures, price stability, productivity levels and institutional support mechanisms (Otsuka, Nakano & Takahashi, 2016). Studies indicate that farmers engaged in contract farming generally experience higher profitability compared to non-contracted farmers, primarily due to reduced market risks, improved access to credit and guaranteed pricing structures (Arouna, Michler & Lokossou, 2021). However, the extent of profitability gains depends on the fairness of contract terms, enforcement mechanisms and input supply models (Sykuta & Cook, 2019). While contract farming enhances economic security and income diversification, challenges such as price manipulation by agribusiness firms, high input costs and dependency risks can undermine farmer profitability (Wang & Liang, 2022). Additionally, side-selling, contract breaches and unequal bargaining power can reduce the intended benefits of contract farming arrangements (Barrett et al., 2012). In Zimbabwe, the tobacco and horticulture sectors have demonstrated varying levels of profitability under contract farming, with large-scale farmers benefiting more than smallholder producers due to resource advantages (Ziyadhuma, 2020).

2.4.3 Market Access & Value Chains in Contract Farming

One of the fundamental objectives of contract farming is to improve market access for smallholder farmers, integrating them into organised agricultural value chains (Glover & Kusterer, 2016). Market access refers to a farmer's ability to sell produce at fair prices, engage with reliable buyers and participate in value-added markets

(Swinnen & Kuijpers, 2020). Contract farming plays a significant role in reducing market uncertainty, ensuring price stability and increasing farmer competitiveness (Bellemare & Bloem, 2018). Studies indicate that farmers engaged in contract farming have higher chances of accessing premium markets, export opportunities and supermarket supply chains than independent farmers (Arouna, Michler & Lokossou, 2021). Agribusiness firms, in turn, benefit from quality consistency, supply reliability and reduced transaction costs (Wang & Liang, 2022). However, contract rigidity, price volatility and dependency on agribusiness firms can pose challenges to market access (Sykuta & Cook, 2019). Contract farming also facilitates farmer participation in certification schemes, such as Fair Trade and GlobalGAP, which enhance access to international markets (Minot & Sawyer, 2021). These certifications increase farmer incomes by ensuring compliance with quality and safety standards. However, high compliance costs and strict production regulations often limit smallholder participation (Ziyadhuma, 2020).

2.4.4 Risk and Power Dynamics in Contract Farming

Risk management is a central theme in contract farming, as farmers and agribusiness firms must navigate production uncertainties, price fluctuations and contract enforcement risks (Barrett et al., 2012). Common risks in contract farming include climate variability, pest outbreaks, market volatility and financial constraints (Otsuka, Nakano & Takahashi, 2016). While contract farming reduces some of these risks through price guarantees and input support, it also introduces new risks, such as contract dependency and potential exploitation by buyers (Wang & Liang, 2022).

Power imbalances are another critical issue, as agribusiness firms often dictate contract terms, enforce penalties and control pricing structures, leaving farmers with

limited negotiating power (Bellemare & Bloem, 2018). Empirical evidence shows that weak contract enforcement, delayed payments and unfair pricing practices contribute to contract failures in many developing countries (Sykuta & Cook, 2019). In Zimbabwe, some contract farming schemes have collapsed due to disputes over pricing, input supply costs and lack of transparency in contract terms (Ziyadhuma, 2020).To address these challenges, policymakers and industry stakeholders emphasize farmer capacity-building, collective bargaining and contract dispute resolution mechanisms to create more balanced and equitable contract arrangements (FAO, 2021).

2.5 Empirical Framework

The empirical framework provides a data-driven analysis of contract farming profitability, examining real-world case studies and research findings from global, regional and Zimbabwean contexts. This section evaluates existing empirical studies to understand how contract farming influences farmer incomes, market access and risk mitigation while identifying key success factors. By reviewing past research on contract structures, institutional support and economic sustainability, the framework establishes a foundation for assessing the financial viability of contract farming at Farmtec in Chiweshe Rural District. This empirical review also highlights gaps in current literature, reinforcing the need for an in-depth study on contract farming profitability in Zimbabwe's evolving agricultural landscape.

2.5.1 Profitability of Contract Farming

Contract farming has been widely debated in agricultural economics, with scholars and policymakers evaluating its impact on farm incomes, financial security and

investment potential (Bellemare & Bloem, 2018). The primary rationale behind contract farming is that it provides market certainty, price stability and input access, which should, in theory, increase farm profitability (Minot & Sawyer, 2021). However, empirical evidence suggests that the profitability of contract farming varies significantly based on contract structures, crop type, geographic region, institutional support and farmer capacity (Otsuka, Nakano & Takahashi, 2016). While studies from Asia and Latin America have shown that contract farming improves smallholder incomes by 20-30%, research from Sub-Saharan Africa suggests mixed profitability outcomes, often influenced by power imbalances and contract enforcement challenges (Swinnen & Kuijpers, 2020).

Empirical research from Asia, Latin America and Europe has demonstrated strong profitability gains for farmers engaged in contract farming. A study conducted in Vietnam's rice sector found that contract farmers earned 25% higher net incomes than non-contracted farmers due to input subsidies, price stability and access to export markets (Nguyen, 2019). Similarly, research in India's poultry and vegetable industries found that contract farming resulted in significant increases in farm revenues (30-40%), particularly among farmers producing for supermarkets and food processing firms (Ramaswami, Birthal & Joshi, 2017). The export horticulture sector in Latin America has also shown strong profitability gains, with contract farmers in Peru's asparagus industry reporting profit margins 35% higher than independent farmers, mainly due to secure markets and reduced transaction costs (Escobal & Cavero, 2019).

However, not all studies confirm universal profitability gains. A meta-analysis of contract farming studies in developing economies found that while contract farming

generally increases income, its impact is not uniform across all farming systems (Ton, 2018). The analysis showed that contract benefits are more pronounced in capital-intensive crops (e.g., horticulture, poultry) but less significant in staple crops (e.g., maize, rice), where contracts often impose rigid production requirements (Ton, 2018). Furthermore, contract farming was found to be less profitable in regions with weak contract enforcement and poor market access, indicating that institutional frameworks play a crucial role in shaping profitability outcomes (Bellemare & Bloem, 2018).

In Sub-Saharan Africa, empirical studies on the profitability of contract farming present mixed findings, with both success stories and structural challenges. A study on Kenya's horticulture industry found that contract farmers experienced higher profits (22% increase in net income) due to quality-based price premiums, reliable input supply and export market access (Wainaina, Okello & Nzuma, 2019). Similar findings were observed in Ghana's poultry industry, where contract farmers earned 18% more than independent farmers, attributed to feed cost subsidies and guaranteed off-take agreements (Danso-Abbeam, Ehiakpor & Aidoo, 2018).

However, several studies highlight profitability limitations in African contract farming models. A study in Zambia's cotton sector found that contract farming did not significantly improve farmer incomes, as agribusiness firms charged high input costs, which offset the benefits of price guarantees (Mofya-Mukuka & Abdulai, 2017). Similar trends were observed in Nigeria's cassava industry, where contracted farmers experienced only marginal profit gains (5-7%), largely due to low farm-gate prices, weak contract enforcement and input repayment obligations (Liverpool-Tasie, 2017).

A crucial factor influencing contract profitability in Africa is side-selling, where farmers breach contracts to sell to alternative buyers offering higher prices. Empirical evidence from Uganda's maize industry found that 43% of contract farmers engaged in side-selling, leading to contract terminations and reduced long-term profitability (Michelson, 2017). This problem is exacerbated by poor contract monitoring systems and limited legal enforcement mechanisms across many African economies (Swinnen & Kuijpers, 2020).

Zimbabwe has a long history of contract farming, particularly in the tobacco, cotton and horticulture sectors, yet empirical findings on profitability remain contested. The tobacco industry, which operates almost entirely under contract farming (80% of total production), has been associated with higher farm revenues, better access to inputs and yield improvements (Ziyadhuma, 2020). Studies indicate that contract tobacco farmers earn up to 30% higher profits than non-contracted farmers, primarily due to technical support, loan packages and stable pricing (Yu et al., 2018).

However, profitability concerns arise due to contract terms that heavily favor agribusiness firms. A study conducted by FAO (2021) found that tobacco contract farmers in Zimbabwe face high production costs, as firms set inflated input prices, leaving farmers with little net profit after deductions. Additionally, delayed payments and contract enforcement issues have led to increased farmer dissatisfaction and default rates, undermining the long-term viability of contract farming models (Sykuta & Cook, 2019).

In the horticulture sector, contract farming has been more beneficial in terms of profitability, particularly for farmers producing for export markets (Ziyadhuma, 2020). Empirical evidence suggests that contracted vegetable and fruit farmers earn

25-35% more than their non-contracted counterparts, largely due to higher market prices and premium certifications (e.g., GlobalGAP, Fair Trade) (FAO, 2021). However, profitability is often eroded by high certification costs, strict quality requirements and delayed export payments, limiting the scalability of contract farming in Zimbabwe (Yu et al., 2018). A major limitation of contract farming profitability in Zimbabwe is its vulnerability to macroeconomic instability. Studies show that currency fluctuations, inflation and input shortages severely affect contract earnings, making profitability highly unpredictable (FAO, 2021). Additionally, side-selling remains a persistent issue, particularly in cash crop sectors such as cotton and maize, where spot market prices occasionally surpass contract prices (Ziyadhuma, 2020).

Empirical evidence suggests that contract farming can enhance farm profitability, but its success is context-dependent. While global and regional studies indicate strong profitability gains, the Zimbabwean experience is mixed, with high revenues in some sectors (e.g., tobacco, horticulture) but low net profits in others (e.g., cotton, maize) due to input costs, side-selling and economic instability. Future research should explore ways to improve contract enforcement, reduce input costs and balance power dynamics between farmers and agribusiness firms to enhance long-term profitability.

While contract farming is widely regarded as a mechanism to improve smallholder profitability, productivity and market access, empirical evidence suggests that several structural, institutional and economic challenges limit its effectiveness (Bellemare & Bloem, 2018). Many contract farming models are characterized by high production costs, contract breaches, market volatility, price manipulation and policy inconsistencies, which often erode the expected profitability benefits (Sykuta &

Cook, 2019). Research across different regions indicates that contracted farmers sometimes earn marginally higher incomes than independent farmers, but many still face financial instability, credit dependency and power asymmetries in bargaining (Minot & Sawyer, 2021).

2.5.1.1 Financial Constraints and High Input Costs

One of the most significant challenges affecting contract farming profitability is the high cost of production, driven by expensive inputs, financial constraints and poor credit access. Empirical studies show that contracted farmers often rely on agribusiness firms for inputs such as seeds, fertilizers and pesticides, which are provided at inflated prices, reducing net profits (Arouna, Michler & Lokossou, 2021). A study in Nigeria's cassava industry found that contracted farmers paid 30-40% more for inputs than market prices, leading to increased indebtedness and lower profit margins (Liverpool-Tasie, 2017). Similarly, research in Zambia's cotton sector found that input packages provided under contracts were 20-25% more expensive than those available through independent channels, effectively offsetting price guarantees (Mofya-Mukuka & Abdulai, 2017).

In Zimbabwe's tobacco industry, a sector dominated by contract farming, high input costs have been a major source of farmer dissatisfaction. Empirical evidence suggests that agribusiness firms supplying inputs under contract charge inflated prices, reducing overall farmer profitability (Ziyadhuma, 2020). Farmers under contract often struggle with repayment obligations, as deductions for inputs and financing significantly reduce take-home income (FAO, 2021). In some cases, contracted farmers end up earning less than independent farmers due to these hidden costs (Yu et al., 2018). Lack of access to formal credit facilities exacerbates these

financial challenges. Studies from Kenya and Ghana indicate that smallholder farmers engaged in contract farming often lack independent financing options and become entirely dependent on agribusiness firms for loans, creating exploitative relationships (Wainaina, Okello & Nzuma, 2019). Limited financial literacy and the absence of transparent credit structures further worsen financial constraints, leaving farmers with little negotiating power in contract pricing (Swinnen & Kuijpers, 2020).

2.5.1.2 Market Risks, Price Volatility and Side-Selling

Despite the promise of price stability, contract farming is still affected by market risks, price fluctuations and contract breaches. Empirical studies indicate that contracted farmers are vulnerable to price manipulation by agribusiness firms, particularly in markets where pricing mechanisms are opaque and non-negotiable (Bellemare & Bloem, 2018). In Vietnam's rice industry, researchers found that contracted farmers earned 15-20% less than independent farmers during high market-price seasons, as they were locked into fixed contracts that did not reflect real-time price increases (Nguyen, 2019). One of the biggest risks to contract profitability is side-selling, where farmers breach contracts by selling produce to higher-paying buyers in informal markets. A study in Uganda's maize industry found that 43% of contracted farmers engaged in side-selling, reducing contract compliance and long-term contract viability (Michelson, 2017). Similar challenges have been reported in Zambia's soybean sector, where 40% of contract farmers default on delivery obligations when open-market prices exceed contract prices (Minot & Sawyer, 2021). In Zimbabwe, side-selling remains a persistent issue in the cotton and maize industries, where farmers frequently default on contract agreements to sell at higher market prices (Ziyadhuma, 2020). This has led agribusiness firms to impose stricter

contract terms, including penalty clauses and blacklisting of defaulters, further reducing farmer flexibility (FAO, 2021). While such penalties discourage contract breaches, they do not address the root causes of side-selling, which are often linked to low contract prices and delayed payments (Sykuta & Cook, 2019).

2.5.1.3 Weak Contract Enforcement and Power Asymmetries

Another major challenge is the power imbalance between agribusiness firms and smallholder farmers, which affects contract negotiations, dispute resolution and enforcement mechanisms. Studies indicate that most contract farming agreements are designed in favor of agribusiness firms, leaving farmers with limited say in pricing, quality standards and payment terms (Otsuka, Nakano & Takahashi, 2016). Empirical evidence from South Africa's fruit export industry highlights that contract farming models often favor larger, well-established farmers, while smaller farmers receive less favorable contract terms, lower profit margins and weaker bargaining positions (Bellemare & Bloem, 2018). In Zimbabwe's horticulture sector, researchers found that contract agreements are often vague on pricing mechanisms and quality assessment criteria, leading to disputes that farmers cannot easily challenge (Ziyadhuma, 2020). The lack of transparent arbitration mechanisms results in frequent contract terminations, reducing trust in contract farming as a reliable economic model (FAO, 2021). In many cases, agribusiness firms delay payments to farmers, forcing them into debt cycles while awaiting compensation. Studies in Ghana and Nigeria indicate that payment delays of 3-6 months are common, undermining farmer liquidity and discouraging contract participation (Liverpool-Tasie, 2017). Similar trends have been observed in Zimbabwe's tobacco industry,

where contract farmers often receive payments in installments, reducing their ability to reinvest in production (Yu et al., 2018).

2.5.1.4 Macroeconomic Instability and Policy Uncertainty

In developing economies, macroeconomic instability and inconsistent agricultural policies create additional challenges for contract farming profitability. Studies in Zimbabwe, Zambia and Kenya indicate that exchange rate volatility, inflation and currency depreciation significantly impact contract pricing structures and input costs (Swinnen & Kuijpers, 2020). In Zimbabwe, sudden currency changes in 2019 disrupted contract farming earnings, forcing many farmers to exit contract agreements due to financial losses (Ziyadhuma, 2020). Additionally, government intervention in commodity pricing has created market distortions, particularly in maize, cotton and wheat sectors, where state-controlled pricing mechanisms reduce private sector incentives for contract farming (FAO, 2021). Weak policy enforcement and the absence of strong legal protections for contract farmers further undermine profitability and trust in contract farming systems (Minot & Sawyer, 2021).

While contract farming has the potential to enhance farmer profitability, numerous financial, market, institutional and policy challenges reduce its effectiveness. Empirical evidence highlights high input costs, price manipulation, side-selling, weak contract enforcement and macroeconomic risks as key barriers to profitability. Addressing these challenges requires better contract governance, stronger farmer bargaining mechanisms and policy reforms to create a more equitable contract farming environment.

2.5.2 Profitability Factors in Contract Farming

2.5.2.1 Farm Size and Farmer Characteristics in Contract Farming

Farm size is a critical determinant of success in contract farming, as it affects a farmer's ability to negotiate favorable contract terms, meet production requirements and achieve profitability (Bellemare & Bloem, 2018). Larger farms generally have greater economies of scale, better access to credit, improved bargaining power and more capacity for mechanisation and irrigation, making them more attractive to agribusiness firms (Minot & Sawyer, 2021). In contrast, smallholder farmers who make up the majority of contract farming participants in developing countries often struggle with lower yields, higher unit production costs and dependency on firm-supplied inputs (Swinnen & Kuijpers, 2020).

Empirical studies demonstrate that larger contract farmers tend to be more productive and profitable due to economies of scale, superior access to inputs and better farm management practices (Otsuka, Nakano & Takahashi, 2016). A study conducted in India's poultry and vegetable industries found that contract farmers with landholdings above 5 hectares achieved 30-50% higher profitability than smallholders with less than 2 hectares, mainly due to their ability to spread input costs over a larger production base, negotiate better contract terms and invest in advanced technology (Ramaswami, Birthal & Joshi, 2017).

Similarly, in South Africa's fruit export sector, large-scale farmers benefited more from contract farming than smallholder participants because they had sufficient capital to invest in high-quality inputs, irrigation and mechanization, enabling them to meet strict export standards (Wainaina, Okello & Nzuma, 2019). In contrast,

smallholder fruit farmers often struggled to comply with contract requirements, particularly regarding quality, volume consistency and traceability standards, which resulted in contract rejections and financial losses (Sykuta & Cook, 2019). In Latin America's coffee and sugarcane industries, research also confirms that contract farming is more beneficial for larger farms. A study in Peru's asparagus industry found that contract farmers with large landholdings experienced 40% higher profitability than independent smallholders, mainly due to their ability to meet contract obligations consistently and reduce per-unit production costs (Escobal & Cavero, 2019).

Farm size also determines a farmer's bargaining power in contract negotiations, affecting their ability to secure favorable pricing, risk-sharing mechanisms and dispute resolution mechanisms (Minot & Sawyer, 2021). Larger farmers, who supply bulk quantities of produce, are more likely to negotiate higher contract prices, flexible payment schedules and reduced penalties for contract breaches, whereas smallholder farmers often accept less favorable terms (Arouna, Michler & Lokossou, 2021). A study on Vietnam's rice industry found that contracted farmers with landholdings above 3 hectares were able to negotiate higher farm-gate prices and lower penalties for quality deviations, whereas smallholders with less than 1 hectare had little negotiation power and were forced to accept strict contract conditions (Nguyen, 2019). Similar trends have been observed in African contract farming models. Research in Kenya's dairy sector found that large contract farmers had stronger relationships with agribusiness firms and could negotiate better milk prices and production incentives, while small-scale dairy farmers faced greater financial vulnerability and dependency on firm-imposed pricing models (Sykuta & Cook, 2019).

In Zimbabwe's tobacco industry, a sector heavily dominated by contract farming, large-scale contract farmers (10+ hectares) have significantly more bargaining power than smallholder farmers (less than 3 hectares). Studies indicate that large contract farmers often receive preferential input credit terms, better extension support and more lenient repayment schedules, whereas smallholder contract farmers face higher deduction rates and delayed payments (Ziyadhuma, 2020).

Larger farms are generally more resilient to production risks, price fluctuations and contract enforcement issues. Due to their diversified production capacity, large farms can absorb financial shocks better than smallholders, who often rely entirely on contract arrangements for survival (Bellemare & Bloem, 2018). Empirical evidence from Ghana's maize industry shows that large contract farms were better equipped to handle market price volatility and crop failure, as they had sufficient capital reserves and diversified revenue streams, whereas small-scale contract farmers were more vulnerable to contract terminations (Danso-Abbeam, Ehiakpor & Aidoo, 2018). In Zimbabwe, smallholder cotton farmers participating in contract farming often suffer disproportionately from price volatility, production failures and delayed payments (FAO, 2021). Larger contract farms, particularly in tobacco and horticulture, tend to withstand these challenges better due to their ability to store produce, access alternative credit sources and leverage multiple income streams (Yu et al., 2018).

The empirical evidence presented demonstrates that farm size significantly affects the success of contract farming, with larger farms generally benefiting more than smallholder farmers. In contrast, smallholder farmers face numerous challenges, including higher unit costs, lower bargaining power, contract enforcement issues and financial dependency on agribusiness firms. While contract farming can provide

stability and market access for smallholders, success often depends on institutional support mechanisms, such as strong contract enforcement, farmer cooperatives and financial inclusion initiatives. Future research should focus on how contract farming models can be redesigned to accommodate the needs of both large and small farmers, ensuring a more inclusive and sustainable agricultural value chain.

2.5.2.2 Contract Design and Risk Allocation Mechanisms in Contract Farming

The success of contract farming is heavily dependent on how contracts are structured, enforced and negotiated between agribusiness firms and farmers (Sivramkrishna & Jyotishi, 2021). Well-designed contracts should incorporate clear pricing mechanisms, transparent risk-sharing frameworks, dispute resolution procedures and legally enforceable obligations to ensure mutual benefits for both parties (Wiggins, Keats & Compton, 2020). Poorly structured contracts, however, often lead to high default rates, side-selling, conflicts and financial losses, undermining the long-term viability of contract farming (Bellemare & Lim, 2020).

Pricing mechanisms are a critical component of contract farming, determining how profits are distributed and whether farmers receive fair compensation for their produce (Ton et al., 2018). Contracts typically include fixed-price agreements, cost-plus pricing, or market-based pricing models, each with different implications for profitability and risk management (Barrett et al., 2012). A study on Vietnam's rice sector found that fixed-price contracts provided farmers with stability during market downturns but limited their ability to benefit from price spikes (Nguyen et al., 2021). In contrast, market-based pricing models, which adjust farm-gate prices according to international commodity rates, enabled farmers to maximize revenue during high-demand periods but increased financial uncertainty during price collapses (Tran &

Gaiha, 2019). In Africa, particularly in Kenya's sugarcane industry, pricing mechanisms have been a source of controversy, as contracts often set low purchase prices that favor agribusiness firms while passing financial risks to farmers (Otieno, Hubbard & Ruto, 2019). Research in Ghana's poultry industry found that contract farmers who operated under fixed-price agreements were more likely to experience stable incomes than those in flexible pricing models, which exposed them to market volatility and uncertain payments (Abebrese, 2020). In Zimbabwe, contract pricing disputes have been common in the tobacco and cotton sectors, where farmers have accused contracting firms of manipulating pricing formulas and deducting excessive costs for inputs and loans (Chari & Ngcamu, 2022). Empirical research indicates that lack of price transparency, late payments and deductions for input loans significantly reduce the net earnings of contract farmers (Moyo & Nyamwanza, 2021).

Contracts must clearly define who bears production, market and financial risks, ensuring a balanced risk-sharing mechanism that prevents the exploitation of farmers (Simmons, 2019). Poorly designed contracts shift excessive risks onto farmers, leading to high contract default rates and farmer dissatisfaction (Bijman, 2021). A study on India's vegetable sector found that contracts that placed the burden of crop failure solely on farmers led to high dropout rates, as smallholder farmers could not recover losses from climate-related shocks or pest infestations (Narayanan, 2020). In contrast, contracts that included risk-sharing mechanisms such as crop insurance, flexible repayment plans and guaranteed minimum prices resulted in higher farmer participation and compliance (Patnaik, 2021). In Zambia's cotton sector, a lack of shared risk has led to frequent contract disputes, as firms often charge high input costs upfront but fail to compensate farmers when yields are affected by droughts or pest outbreaks (Mujeyi & Moyo, 2020). Similarly, in Tanzania's maize industry,

contracts that fail to account for price fluctuations or provide buffer mechanisms have resulted in high side-selling rates, as farmers seek higher returns outside contract agreements (Mshote & Ndambi, 2021). In Zimbabwe, research shows that contract farming arrangements in tobacco are often structured in favor of agribusiness firms, which pass most production risks onto farmers (Govereh, Jayne & Nyoro, 2020). Many tobacco contracts do not include crop insurance or price-stabilisation mechanisms, leaving farmers vulnerable to climate variability and currency fluctuations (Chari & Ngcamu, 2022). This risk imbalance has been a major factor contributing to high contract breach rates and disputes over loan repayments (Moyo & Nyamwanza, 2021).

The effectiveness of contract farming depends on how well contracts are enforced and how disputes are resolved (Prowse, 2020). In many developing countries, weak legal frameworks and limited access to arbitration mechanisms result in frequent contract violations, delayed payments and disputes over quality standards (Freguin-Gresh, Anseeuw & D'Haese, 2018). A study in Uganda's maize sector found that over 40% of contract farmers reported disputes with agribusiness firms, with most cases related to late payments, rejected produce and price manipulation (Mugoya, 2021). However, due to weak contract enforcement mechanisms, many of these disputes remained unresolved, leading farmers to exit contract farming arrangements (Njeru & Omulo, 2020). In Ghana's cocoa sector, where contracts are more formally regulated, dispute resolution mechanisms have been more effective, with firms and farmers using third-party mediation and cooperative arbitration boards to address conflicts (Antwi-Agyei et al., 2021). This has contributed to higher contract renewal rates and improved trust between farmers and agribusiness firms. In Zimbabwe, weak legal enforcement of contract agreements has been a significant challenge,

particularly in the cotton and horticulture industries (Mujeyi & Moyo, 2020). Farmers have frequently accused agribusiness firms of arbitrarily changing contract terms, deducting excessive loan repayments and delaying payments, yet legal recourse remains limited (Chari & Ngcamu, 2022). A lack of government oversight and farmer cooperatives to mediate disputes has further weakened contract farming's effectiveness as a reliable economic model (Moyo & Nyamwanza, 2021).

The success of contract farming largely depends on well-structured contracts that ensure fair pricing, balanced risk-sharing and effective dispute resolution. Transparent pricing models improve farmer profitability, while mechanisms such as crop insurance and price guarantees reduce financial risks. Strong enforcement and arbitration frameworks enhance trust and compliance, preventing contract breaches. Conversely, poorly designed contracts that favor agribusiness firms, impose excessive risks on farmers, or lack enforcement often lead to financial losses and disputes. To enhance sustainability, policymakers and firms must improve pricing transparency, integrate risk-sharing mechanisms and strengthen legal enforcement. Future research should explore innovative contract models that balance firm and farmer interests for long-term viability.

2.5.2.3 Access to Extension Services and Technical Support in Contract Farming

Extension services and technical support are critical factors of success in contract farming, as they enhance productivity, compliance with contract requirements and farm-level efficiency (Anderson & Feder, 2017). Effective extension services provide farmers with essential knowledge on agronomic best practices, pest and disease management, soil fertility improvement and post-harvest handling, ensuring they meet contractual obligations (Swinnen & Kuijpers, 2020). Contract farming

models that integrate regular extension support often achieve higher compliance rates and profitability, while those lacking technical guidance experience higher contract failure rates, quality rejections and reduced yields (Ton et al., 2018).

Empirical evidence indicates that contract farmers with regular access to extension services tend to have higher productivity and better contract compliance than those without (Feder, Birner & Anderson, 2019). In Thailand's poultry industry, a study found that contract farmers who received weekly extension visits and technical training reported a 35% increase in yields compared to those with minimal support (Ramaswami, Birthal & Joshi, 2017). This demonstrates the direct link between extension services and improved farm productivity, particularly in high-value contract farming models. A similar pattern was observed in Ethiopia's coffee sector, where contract farmers receiving regular agronomic training and field visits had yield increases of 20% compared to non-supported farmers (Abate et al., 2020). In contrast, in Uganda's maize industry, research found that lack of extension support resulted in high contract defaults, as farmers struggled to meet quality and quantity expectations (Mugoya, 2021). This highlights that without technical guidance, contract farmers may fail to comply with contract requirements, leading to contract terminations and financial losses. In Zimbabwe, extension support plays a crucial role in the tobacco and horticulture industries, where contract farming is prevalent. Studies indicate that contracted farmers who receive regular extension training achieve higher output quality, contract compliance and financial returns than those who rely solely on self-guided farming practices (Nyamwanza & Moyo, 2021). However, limited extension funding, poor farmer-to-extension officer ratios and logistical challenges have constrained the effectiveness of extension services in some regions (Chari & Ngcamu, 2022).

Despite the proven benefits of extension services, many contract farming schemes lack adequate technical support, leading to low productivity, quality inconsistencies and farmer dissatisfaction (Anderson & Feder, 2017). In Zambia's cotton sector, a study found that contract farmers who did not receive proper technical training had a 25% lower compliance rate, resulting in higher side-selling and contract disputes (Mujeyi & Moyo, 2020). Similarly, in Nigeria's cassava sector, a lack of effective extension services led to poor adherence to contract guidelines, forcing agribusiness firms to terminate underperforming contracts (Liverpool-Tasie et al., 2021). One of the biggest constraints to effective extension services is inadequate funding for public agricultural extension programs, particularly in developing countries. Studies in Tanzania's maize industry indicate that government underfunding of extension programs has led to poor knowledge dissemination, leaving many contract farmers without adequate guidance on soil management, pest control and efficient irrigation techniques (Mshote & Ndambi, 2021). In Zimbabwe, underfunding of public extension services has forced many contract farmers to rely solely on agribusiness-provided technical support, which is often limited in scope and biased towards firm priorities rather than farmer needs (Nyamwanza & Moyo, 2021). This imbalance reduces farmer empowerment and innovation, making them highly dependent on contract firms for agronomic decisions (Chari & Ngcamu, 2022).

Extension services in contract farming are typically provided by public agricultural agencies, private agribusiness firms, or farmer cooperatives. Each model has advantages and limitations, influencing contract farming outcomes differently (Feder, Birner & Anderson, 2019). Government-run extension programs play a crucial role in smallholder contract farming, as they provide independent, unbiased technical guidance (Wiggins, Keats & Compton, 2020). However, many public extension

programs suffer from funding shortages, logistical constraints and limited staff-to-farmer ratios, reducing their effectiveness (Narayanan, 2020). For example, in Kenya's dairy sector, a study found that only 25% of contract farmers received regular public extension visits, limiting the potential for knowledge dissemination and contract success (Otieno et al., 2019). Agribusiness firms often provide direct extension support to contract farmers, ensuring they comply with firm-imposed quality and quantity requirements (Bijman, 2021). Private extension services are better funded and more consistent than public programs, but they tend to focus more on meeting corporate production standards rather than addressing broader farmer needs (Prowse, 2020). In Ghana's cocoa sector, firm-led extension services were more effective in improving farm productivity, but farmers complained that support was narrowly focused on meeting export requirements rather than holistic farm development (Antwi-Agyei et al., 2021).

Farmer cooperatives and non-governmental organisations (NGOs) also provide independent technical support, helping contract farmers become less dependent on agribusiness firms (Sivramkrishna & Jyotishi, 2021). In Uganda's coffee sector, contract farmers supported by farmer-led extension groups achieved higher profitability and contract retention rates than those who relied solely on agribusiness training (Mugoya, 2021). However, challenges such as low funding and weak institutional capacity limit the scalability of cooperative-led extension services (Freguin-Gresh, Anseeuw & D'Haese, 2018). The success of contract farming is significantly influenced by the quality and availability of extension services, as they enhance farmer productivity, compliance and contract performance. Empirical evidence shows that contracted farmers who receive consistent technical support achieve higher yields, better quality produce and increased profitability. However,

challenges such as underfunding of public extension programs, limited private-sector outreach and a lack of independent advisory services reduce the effectiveness of extension support in many contract farming models.

To strengthen extension services in contract farming, stakeholders must increase investment in extension programs, integrate digital advisory tools and encourage partnerships between public, private and cooperative-led extension systems. Future research should explore innovative extension delivery models, such as mobile-based advisory services and AI-driven agronomic support, to enhance the accessibility and impact of extension programs in contract farming.

2.5.2.4 Market Access and Institutional Support in Contract Farming

Access to well-structured markets and strong institutional support are fundamental to the success of contract farming. Without reliable markets, contract farming arrangements become unsustainable as farmers struggle to secure fair prices, reduce transaction costs and ensure consistent product demand. Institutions, including farmer cooperatives, financial entities and government agencies, play a key role in facilitating efficient contract arrangements by mitigating risks, enforcing agreements and ensuring transparent market interactions. While contract farming aims to integrate smallholder farmers into commercial value chains, its effectiveness largely depends on the extent to which markets are accessible and institutions provide regulatory and financial backing. Studies indicate that contract farming models linked to export-driven markets, supermarket supply chains, or processing industries tend to be more successful, whereas those dependent on informal markets often experience volatility, price instability and contract breaches (Barrett et al., 2021).

The availability of structured markets significantly determines contract farming profitability. Farmers engaged in contracts with well-established agribusiness firms or exporters often experience stable prices, reduced transaction costs and improved financial security. Empirical research on Vietnam's rice sector shows that contract farmers supplying export-oriented markets earned 20-30% higher profits than those selling in local markets, as contracts ensured quality-based price incentives and premium payments (Nguyen & Grote, 2022). Similarly, in Latin America's horticulture industry, smallholder farmers participating in export-led contract arrangements secured long-term supply agreements and better farm-gate prices, enhancing financial stability (Maertens & Vande Velde, 2021). In contrast, contract farmers producing for domestic markets with unstable demand often struggle with fluctuating prices and contract renegotiations, limiting their profitability. In Africa, market access remains a major barrier to contract farming success, particularly where infrastructure challenges and weak buyer networks undermine price stability. Research from Ghana's cocoa sector highlights that contract farmers linked to multinational buyers benefit from stable pricing models, while those supplying domestic buyers experience greater price volatility and contract defaults (Kolavalli & Vigneri, 2021). Similarly, studies in Kenya's dairy sector reveal that contract farmers selling to formal dairy processors achieve more stable incomes, whereas those dependent on local buyers face erratic price fluctuations (Wainaina, Okello & Nzuma, 2020). The lack of formalised markets in many African countries contributes to high contract failure rates, as farmers are often tempted to side-sell when open market prices exceed contract prices (Prowse, 2020).

In Zimbabwe, market access challenges have significantly influenced contract farming performance, particularly in tobacco and cotton production. Research

indicates that contract farmers linked to major international tobacco buyers receive better pricing and input support, while those engaged with smaller local contractors often experience delayed payments and weaker market linkages (Mujeyi & Moyo, 2021). In the horticulture sector, contract farmers producing for supermarkets and export firms report higher profitability and contract retention, whereas those selling in informal markets struggle with price instability and inconsistent demand (Nyamwanza & Moyo, 2022). Weak domestic value chains and limited investment in agro-processing industries further restrict the growth of contract farming in Zimbabwe, as many farmers remain dependent on a few dominant buyers, reducing their negotiation power (Chari & Ngcamu, 2022).

2.5.2.5 Institutional Support and Financial Accessibility in Contract Farming

Beyond market access, contract farming success is also heavily influenced by institutional support mechanisms. Strong institutions—such as farmer cooperatives, financial institutions and regulatory agencies—help improve contract governance, ensure fair trade practices and provide credit facilities for contract farmers (Swinnen & Kuijpers, 2021). In countries where institutions actively regulate contract agreements, enforce pricing transparency and provide legal support for dispute resolution, contract farming tends to be more sustainable. Empirical studies on India's poultry industry show that contract farmers linked to cooperative-led financing programs report higher success rates than those solely dependent on agribusiness firms, as independent financing reduces farmer indebtedness and enhances bargaining power (Patnaik, 2021). In Africa, the role of cooperatives and financial institutions in contract farming remains underdeveloped in many countries, leading to weak contract enforcement and limited farmer protection. Research from

Tanzania's maize sector reveals that contract farming arrangements lacking institutional credit support experience higher default rates, as farmers struggle to finance inputs and labor costs (Mshote & Ndambi, 2021). In contrast, contract farming models backed by strong cooperative networks, such as those in Ethiopia's coffee industry, have been more resilient, as cooperatives negotiate fairer contract terms, provide technical assistance and ensure price stability (Abate et al., 2020). In Zimbabwe, weak institutional frameworks have been a key challenge for contract farming. The absence of strong farmer cooperatives and regulatory oversight has allowed agribusiness firms to dictate contract terms, manipulate pricing structures and delay payments (Mujeyi & Moyo, 2021). Additionally, limited access to independent credit facilities forces farmers to rely on company-supplied loans, which often come with high interest rates and rigid repayment conditions (Nyamwanza & Moyo, 2022). While some contract farming models in Zimbabwe, particularly in the horticulture and poultry sectors, have benefited from cooperative-led financing programs, these remain limited in scale, leaving many farmers vulnerable to financial risks (Chari & Ngcamu, 2022).

Empirical evidence suggests that market access and institutional support are fundamental to contract farming success, as they influence pricing stability, contract enforcement and farmer financial security. Contract farming models integrated into structured export markets or high-value processing industries tend to perform better, while those dependent on unregulated domestic markets face greater volatility and contract failures. Institutional support, particularly through farmer cooperatives and regulatory oversight, enhances contract sustainability by protecting farmers from exploitative contract terms, ensuring access to credit and improving contract dispute resolution.To enhance the effectiveness of contract farming, policymakers must

strengthen market linkages by investing in agro-processing industries and infrastructure that connects farmers to formal buyers. Additionally, fostering stronger farmer cooperatives and improving access to independent financing options can reduce farmer dependency on agribusiness firms and promote more equitable contract agreements. Future research should explore policy interventions that enhance market access and institutional capacity, ensuring contract farming remains a viable and profitable model for smallholder farmers.

2.6 Research Gap and Justification for This Study

Despite the growing prominence of contract farming as a tool for improving smallholder agricultural productivity, there remains limited empirical evidence on its actual profitability in Zimbabwe, particularly in diverse sectors beyond tobacco and cotton (Mujeyi & Moyo, 2021). While global studies highlight contract farming's potential to increase farmer incomes through market access and risk reduction, findings in Africa remain inconsistent, with reports of exploitative contracts, high input costs and weak price negotiation power for farmers (Barrett et al., 2021; Maertens & Vande Velde, 2021). In Zimbabwe, most research has focused on the macroeconomic impacts of contract farming rather than conducting sector-specific profitability assessments, leaving a critical gap in understanding how contract arrangements affect financial outcomes for smallholder farmers across different commodities (Chari & Ngcamu, 2022). Institutional weaknesses and limited market access further complicate contract farming in Zimbabwe. Weak farmer cooperatives, poor contract enforcement and price manipulation by agribusiness firms have raised concerns about the fairness and sustainability of contract farming agreements (Nyamwanza & Moyo, 2022). Additionally, while Zimbabwe's economy has faced

currency fluctuations and inflation, few studies have explored how these factors influence contract pricing, payment structures and farmer profitability (Prowse, 2020). This study is justified as it seeks to fill these gaps by assessing the actual profitability of contract farming at Farmtec in Chiweshe Rural District, analysing its financial viability, factors of success and institutional support mechanisms. The findings will provide valuable insights for policymakers, agribusiness firms and farmer organizations looking to improve contract farming models and enhance smallholder profitability and economic sustainability in Zimbabwe.

2.7 Chapter Summary

This chapter has provided a comprehensive review of literature on contract farming, focusing on its profitability, factors of success and institutional frameworks. Theoretical perspectives such as the Principal-Agent Theory and Resource-Based View (RBV) Theory helped contextualise contract farming's role in reducing transaction costs, mitigating risks and improving farmer productivity. The empirical framework examined global, regional and Zimbabwean studies, highlighting key factors that influence contract farming success, including farm size, contract structure, extension services, market access and institutional support. The review also identified critical research gaps, particularly regarding contract farming profitability beyond tobacco and cotton, the impact of weak institutional support and the effects of macroeconomic volatility on contract farming sustainability in Zimbabwe.

The findings from this literature review establish the foundation for the next chapter, which outlines the study's research methodology. Chapter 3 will discuss the research design, data collection methods, sampling techniques and analytical tools used to assess contract farming profitability at Farmtec in Chiweshe Rural District. By

employing a rigorous methodological approach, the study aims to provide empirical evidence that addresses the research gaps identified in this chapter.

CHAPTER 3 METHODOLOGY

3.1 Introduction

The chosen philosophy for this research is pragmatism. Pragmatism is a philosophical approach that focuses on practical consequences and real-world applications of research findings. It allows for a flexible research design that incorporates multiple perspectives, recognising that reality can be understood in various ways (Tashakkori & Teddlie, 2020). This philosophy is particularly suitable for this study as it acknowledges the importance of both quantitative and qualitative data in providing a comprehensive understanding of the complexities involved in contract farming and transaction costs for small-scale farmers. Pragmatism helps the researcher to prioritise actionable insights and practical implications, facilitating the exploration of farmers' experiences alongside measurable outcomes related to their profitability.

3.2 The Research Design

This study adopts a mixed methods research design grounded in the pragmatic paradigm, which accommodates both positivist and interpretivist elements. Ontologically, the study assumes that reality is both objective and socially constructed. Profitability can be measured quantitatively through financial indicators while also understood through farmers' subjective experiences and perceptions. Epistemologically, the research recognises that knowledge can be derived from both observable facts and contextual understanding, thus combining statistical analysis with interpretive insights..

The study will utilise a survey design to gather quantitative data from a defined group of smallholder farmers engaged in contract farming with Farmtec Zimbabwe. Structured surveys will collect numerical data on farmers' income, transaction costs and perceptions of contract farming. This quantitative component will facilitate statistical analysis to identify trends and correlations among various factors impacting profitability.

Simultaneously, the qualitative aspect will include semi-structured interviews and focus groups with key stakeholders, such as farmers, agricultural experts and representatives from Farmtec Zimbabwe. This dual approach will provide a deeper understanding of the farmers' lived experiences, challenges and perceptions regarding contract farming (Fetters et al., 2019). By integrating both methods, this study aims to present a comprehensive view of the profitability of contract farming, addressing not only the numerical aspects but also the contextual and experiential factors that contribute to profitability levels

3.3 Population and Sampling

The population of this study is made up of 800 people who are directly involved in Farmtec Zimbabwe's contract farming programme in Chiweshe Rural District. his figure is taken from Farmtec Zimbabwe's internal records (2025) for the 2024/2025 farming season.

Table 3.1: Population Size

Category	Population Size
Farmers growing maize	400
Farmers growing soybeans	240

Farmers growing other crops	160
Agricultural Experts	50
Farmtec Zimbabwe Representatives	20
Total	**800**

Source: Farmtec (2025)

According to these records, 400 farmers grow maize, 240 grow soybeans, and 160 grow other crops such as groundnuts and vegetables under smaller contracts. The population also includes 50 agricultural experts who provide technical support to farmers, and 20 Farmtec representatives who manage contracts, distribute inputs, and oversee crop collection.

This population figure is reliable because it is based on Farmtec's official records, which list all registered farmers and staff involved in the contract farming scheme. Using company data ensures that the study reflects the real number of participants and captures all key groups that influence the profitability of contract farming in Chiweshe.

3.3.1 Sample size

The study used the Yamane (1967) formula to determine the appropriate sample size from a total population of 800 individuals involved in Farmtec's contract farming operations. The formula is expressed as:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

- n= sample size
- N= population size (800)
- e= margin of error (0.07)

Substituting the values:

$$n = \frac{800}{1 + 800(0.07)^2} = \frac{800}{1 + 3.92} = \frac{800}{4.92} = 162.6$$

The calculated sample size was therefore 163 respondents.

A 7% margin of error was chosen to make the study both statistically reliable and practically feasible. Researchers such as Taherdoost (2018) and Bujang et al. (2021) note that acceptable error margins in social and agricultural field studies typically range between 5% and 10%, depending on resource availability, population accessibility, and research design. A smaller margin, such as 5%, would require a much larger sample which would increase costs and time requirements for fieldwork. The 7% level still provides a high level of accuracy whilst allowing efficient data collection within the available resources and timeframe. This sample size is therefore considered adequate to produce dependable results that reflect the characteristics and opinions of farmers, agricultural experts, and Farmtec representatives in Chiweshe Rural District.

3.3.2 Stratified Sampling

For this study, a stratified random sampling technique will be employed to ensure a representative and reliable sample of small-scale farmers who have established contracts with Farmtec Zimbabwe. This method involves dividing the population into distinct strata based on relevant characteristics, such as farm size, crop type and

experience and then selecting participants from each stratum. Stratified sampling is particularly suitable for this study as it ensures that all subgroups within the population are adequately represented, thereby enhancing the reliability and depth of the data collected. By focusing on different strata, the study will capture a more comprehensive view of the factors influencing profitability in contract farming.

3.4 Data Collection Instruments

To assess the profitability of contract farming among small-scale farmers in Chiweshe rural district, with a specific focus on Farmtec Zimbabwe, three primary data collection instruments will be employed: structured questionnaires, semi-structured interviews and focus group discussions.

3.4.1 Structured Questionnaires

To gather quantitative data that directly addresses the research objectives, structured questionnaires will be utilised. These questionnaires will be designed with closed-ended questions to quantify demographic information, types of crops grown under contract, perceived profitability and challenges faced in contract farming. Prior to full deployment, they will undergo a pilot test with a small group of farmers to ensure clarity and relevance. The questionnaires will be administered by trained research assistants through face-to-face interactions or will be available for self-administration, based on participants' preferences. This approach allows for efficient data collection from a larger sample of small-scale farmers, providing clear insights into the profitability levels and income stability associated with contract farming with Farmtec Zimbabwe.

3.4.2 Semi-Structured Interviews

Along with the questionnaires, semi-structured interview guides will be there to collect qualitative data. Such guides will have both structured and unstructured questions giving farmers the chance to expand more about their experiences by contract farming: these were very necessary in understanding the subjective accounts of farmers regarding variables affecting their profitability such as terms of contracts, access to resources and market dynamics.

Selection for and therefore identification of, a smaller number of individuals for in-depth interviews from among questionnaire respondents will be made. Such criteria will include the difference, under farm size, types of crops grown and geographical representation within Chiweshe as representatives of particular subgroups. This way, the experiences and insights become richly diverse. The interviews will be conducted during times that the farmers find it convenient, that is during off-peak farming hours. Place of interviews would be familiar and comfortable settings such as their homes or local community centers, to foster a conducive atmosphere for open dialogue. Interviews will be recorded digitally, with the consent of the participants, for accurate capture of their responses. The interviewer notes that some major aspects and non-verbal cues will be a follow up. The recordings will then be verbatim transcribed for further analysis to focus on common themes recurring and unique observations about profitability in contract farming. This practical approach will not only round out the qualitative data collected but also build trust in a sense of rapport between the interviewer and the subjects, culminating in discussions that are both richer and deeper.

3.4.3 Focus Group Discussions

Bring together farmers for focus group discussions. In this manner, farmers will share experiences as well as subsist in an environment where they are bound to hear other opinions. This format provides for interaction and brainstorming, ultimately leading to richer understandings of contract farming profitability.

The focus group consists of small numbers of participants between the ranges of 6 and 10 and will ensure that individuals from all walks of life become part of the focus group. Recruitment shall include hiring those farmers with much varied crop types, operational systems and exposure to contracts so that diverse perspectives and more meaningful discussions come to play.

The sessions will be organized with respect for the convenience of the participants, mostly evenings or weekends, to gather further attendance. As far as possible the venues will be chosen for accessibility such as community centers or even small local gathering spaces creating an informal environment for the discussions.

Each will also be having a trained facilitator for that particular focus group, whose work is to moderate. The facilitator will administer a structured discussion guide that highlights the key areas under contract farming profitability, giving room for all participants to air their views. Their duties will also include persuading a less talkative respondent to contribute and controlling a very talkative respondent to keep the dialogue balanced. All discussions will be audio recorded with the consent of participants, but will also be noted to highlight key messages and other non-verbal interactions. These recordings will then be transcribed verbatim for later analysis, allowing for an in-depth analysis of conversations.

There are ultimately transcriptions of these discussions that will also be analysed to establish themes and classify them into challenges or success factors as regard contract farming. Thus, this would be transformed into qualitative data to flavor the quantitative results obtained by the questionnaires. This goes further to provide a deeper insight into the dynamics of contract farming in Chiweshe. This information forms a very practical manner through which focus group discussions could be used to gain deeper insights into the collective experience of smallholder farmers in order to better understand the factors leading to profitability in contract farming.

3.5 Data Collection Procedure

The Data were collected using two main procedures: distribution of structured questionnaires and conducting semi-structured interviews. The structured questionnaires were physically distributed to selected small-scale farmers to gather quantitative data on costs, revenues and perceptions related to contract farming profitability. In addition, semi-structured interviews were conducted with agricultural experts and Farmtec Zimbabwe representatives. These interviews provided in-depth qualitative insights into contract terms, support services and operational challenges influencing profitability. All interviews were conducted face-to-face at convenient locations and scheduled times. Prior to full deployment, both tools were pre-tested with a small sample to ensure clarity and reliability. Ethical clearance was obtained and informed consent was sought from all participants before data collection.

Using stratified sampling, the study will target small-scale farmers with contracts from Farmtec Zimbabwe, aiming for a sample size of 100 participants, including farmers and agricultural experts. The data collection will involve administering the structured questionnaires by trained research assistants through face-to-face

interactions or self-administration, depending on participants' preferences. Following this, semi-structured interviews will be conducted with a subset of participants to explore their experiences in depth.

Focus group discussions will also be organized to facilitate collective dialogue among farmers. All collected data will be securely stored, with audio recordings transcribed for analysis. Regular quality checks will ensure data completeness and accuracy. Once data collection is finalised, a review will be conducted to address any discrepancies, followed by preparation of the data for analysis. This structured approach aims to provide valuable insights into the profitability of contract farming for small-scale farmers in Chiweshe.

3.5.1 Analysis and Organisation of Data

The data collected during the study, which assesses the profitability of contract farming among small-scale farmers in Chiweshe rural district with a focus on Farmtec Zimbabwe, will be systematically analysed and presented to reflect both the quantitative and qualitative dimensions of the research.

3.5.2 Quantitative Data Analysis

For quantitative data analysis, descriptive statistics will be employed initially to summarise demographic characteristics and key variables related to contract farming profitability. This will involve calculating means, medians and standard deviations to provide clear insights into average profitability levels and the variability of experiences among farmers. For instance, determining the mean profitability will establish an overall profitability benchmark, while standard deviations will illustrate how individual farmer experiences differ from this average.

After the descriptive analysis, inferential statistical techniques, such as regression analysis and chi-square tests, will be utilised to explore relationships between variables. For the regression analysis, the linear regression formula will be applied to model the relationship between contract terms (independent variables) and profitability (dependent variable). The formula for linear regression is:

Y=β0+β1X1+β2X2+...+βnXn+ϵY = \beta_0 + \beta_1X_1 + \beta_2X_2 + ... + \beta_nX_n + \epsilonY=β0 +β1 X1 +β2 X2 +...+βn Xn +ϵ

Where:

- YYY is the profitability,
- X1,X2,...,XnX_1, X_2, ... , X_nX1 ,X2 ,...,Xn are the different contract terms,
- β0\beta_0β0 is the intercept,
- β1,β2,...,βn\beta_1, \beta_2, ... , \beta_nβ1 ,β2 ,...,βn are the coefficients and
- ϵ\epsilonϵ is the error term.

This will help identify how different contract terms (such as price guarantees and input provision) impact profitability.

Additionally, chi-square tests will be used to assess associations between categorical variables, such as demographic factors and success in contract farming. The formula for the chi-square test is:

χ2=∑(Oi−Ei)2Ei\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}χ2=∑Ei (Oi −Ei)2

Where:

- O_i is the observed frequency,
- E_i is the expected frequency and
- The summation is over all categories.

Statistical software, such as SPSS and Microsoft Excel, will facilitate efficient handling and analysis of the quantitative data.

3.5.3 Qualitative Data Analysis

For qualitative data analysis, thematic analysis will be conducted on the transcripts from semi-structured interviews to identify recurring themes and significant patterns regarding farmers' experiences with contract farming. This method is particularly suitable for this study as it allows for an in-depth understanding of the complexities surrounding contract farming and the specific challenges faced by farmers. Thematic analysis will be enhanced by using qualitative data analysis software, such as NVivo, to aid in coding and organising the data.

Additionally, narrative analysis will be employed to capture individual stories, providing insights into the complex experiences and emotions of farmers regarding their contracts with Farmtec Zimbabwe. This approach will enrich the understanding of the personal context behind the quantitative findings, allowing for a more comprehensive analysis of the data. Together, these methods will ensure that the analysis reflects both the statistical trends and the lived experiences of small-scale farmers, providing a holistic view of contract farming profitability.

3.5.4 Presentation of Results

The presentation of results will use various formats, including graphs and charts for visual representation of the quantitative findings, facilitating a clearer understanding

of trends in contract farming profitability. Qualitative results will be showcased through quotes and detailed case studies, offering rich context to the numerical data and enhancing the overall interpretative depth of the study's findings.

By employing a combination of structured and semi-structured instruments, along with rigorous adherence to ethical considerations and thorough analyses, this research aims to yield comprehensive insights into the profitability of contract farming for small-scale farmers in the Chiweshe rural district, specifically focusing on the case study of Farmtec Zimbabwe.

3.6 Ethical Consideration

Adherence to research ethics and legal norms is fundamental to maintaining credibility and integrity in the study. Key ethical considerations for this research will include informed consent, ensuring that all participants are fully aware of the study's purpose, procedures, potential risks and benefits before agreeing to participate. Proper documentation of informed consent will be secured, thus respecting the autonomy of the farmers involved (Liamputtong, 2020).

Confidentiality will also be a priority, with measures taken to protect participants' identities by removing personal identifiers and securely storing the data to prevent unauthorised access (Wiles, 2020). Additionally, every participant will retain the right to withdraw from the research at any given time without jeopardising their standing or facing any repercussions, reinforcing the ethical commitment to individual choice.

The research will undergo an ethical review by an Institutional Review Board (IRB) or ethical committee, which will scrutinise the proposed methods and ensure

compliance with ethical standards. Furthermore, legal aspects, such as adherence to data protection laws (e.g., General Data Protection Regulation), will be carefully considered to minimise any potential legal liabilities or issues relating to the conduct of the research. By observing these ethical and legal obligations, the study seeks to avoid potential legal suits or controversies.

3.7 Chapter Summary

This study aims to systematically assess the profitability of contract farming for small-scale farmers in the Chiweshe rural district, particularly focusing on the role of Seed Co Limited. By examining various dimensions such as contract terms, economic viability, power dynamics and access to resources, the research seeks to illuminate both the potential benefits and the significant challenges that smallholder farmers face in this agricultural practice. The findings are expected to inform policy recommendations aimed at enhancing the effectiveness of contract farming in Zimbabwe to support stronger, more equitable relationships between agribusinesses and small-scale farmers, ultimately improving livelihoods in rural communities.

CHAPTER 4 DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents, analyses, and interprets the findings of the study on the profitability of contract farming at Farmtec in Chiweshe Rural District. The analysis draws from both quantitative data collected through farmer questionnaires and qualitative insights obtained from interviews and focus group discussions with farmers, extension officers, agricultural experts and Farmtec representatives. The chapter is organised around the study objectives, beginning with the response rate and demographic characteristics of respondents, followed by detailed results on the determinants of profitability, the effect of contract design, the contribution of institutional support, and the impact of macroeconomic conditions. The chapter provides a comprehensive understanding of the factors shaping profitability in contract farming under Farmtec through the combination of descriptive and inferential statistics with thematic insights.

4.2 Response Rate

Order of presentation. Table first, followed by a paragraph of results and finally a paragraph of discussion and interpretation.

***Table 4.1**: Questionnaire Response Rate*

Distributed Questionnaires	Returned Questionnaires	Valid Responses	Response Rate
100	76	76	76%

Out of the 100 questionnaires distributed to farmers in Chiweshe Rural District, 76 were completed and returned, which gave a response rate of 76 percent. Saunders et al. (2019) argue that response rates above 70 percent enhance the credibility of findings by minimising non-response bias, while Creswell and Creswell (2018) note that higher participation improves the representativeness and validity of results.

The achieved response rate, therefore provides a strong basis for subsequent analysis which ensure that the survey findings are representative of the farmer population under Farmtec contracts in Chiweshe.

4.3 Demographic Characteristics of Respondents

4.3.1 Gender of Respondents

Figure 4.1 below summarises the gender composition of the survey participants

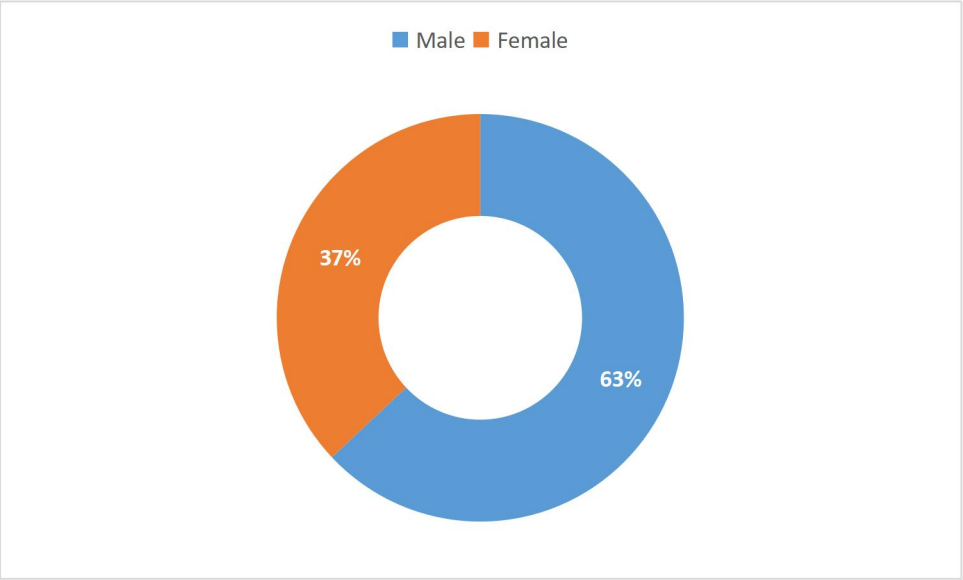

Figure 4.1: Gender Distribution of Respondents

The majority of respondents were male (63%), with females making up 37 percent. This pattern reflects wider evidence that men dominate agricultural decision-making in Zimbabwe, while women often provide labour but have less contractual control (Thebe, 2018). Gendered access to contracts may therefore influence perceptions of profitability.

4.3.2 Age of Respondents

Figure 4.2 below illustrates the age distribution of the farmers who participated in the survey.

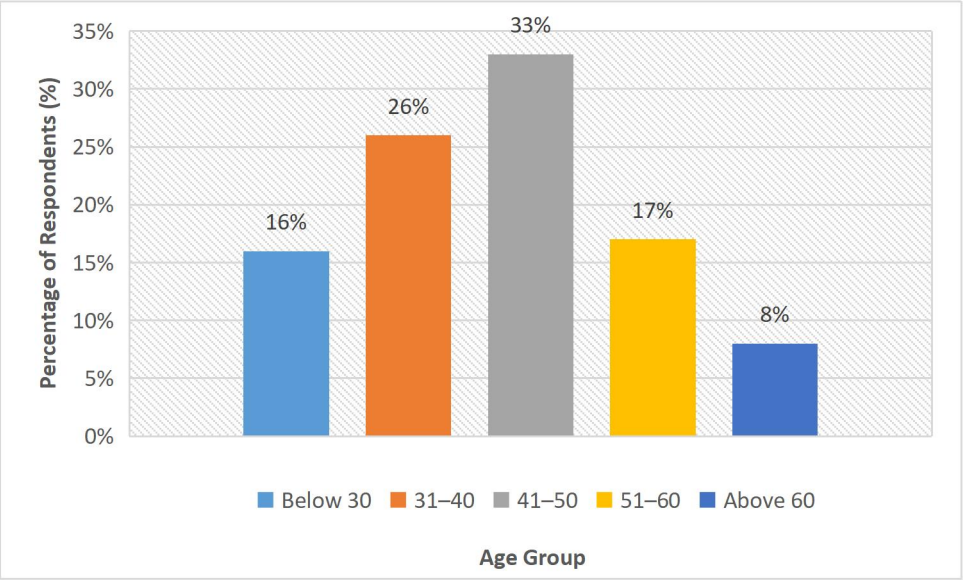

Figure 4.2:Age Distribution of Respondents

The largest proportion of respondents (33%) were aged 41–50, followed by 31–40 years (26%). This suggests that contract farming is dominated by middle-aged farmers who typically have more experience and resources than younger farmers. Similar findings were reported by Muroiwa et al. (2018) who noted that middle-aged smallholders are more active in contract schemes due to greater stability in land access and farming knowledge.

4.3.3 Education Level of Respondents

Figure 4.3 below presents the educational attainment of the respondents under Farmtec contracts.

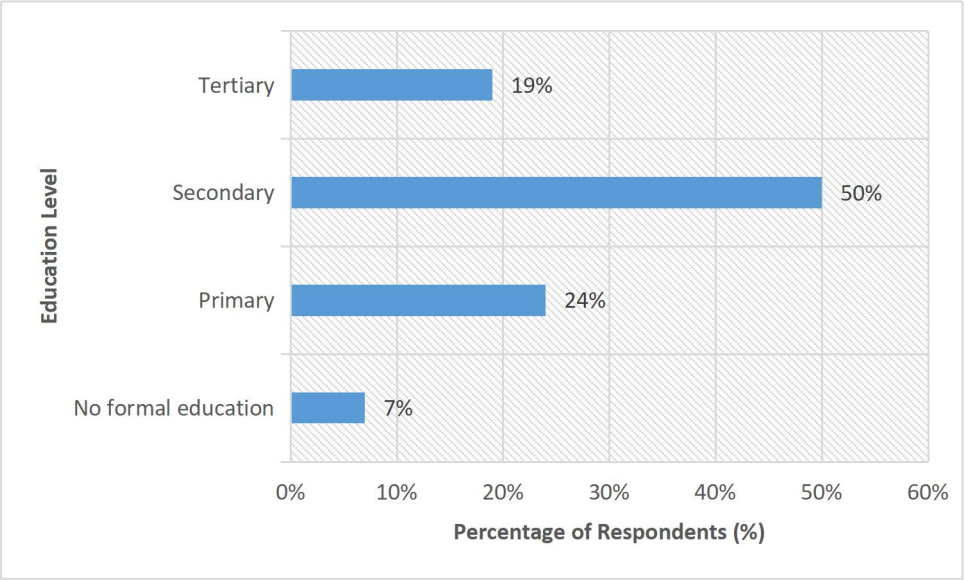

Figure 4.3: Education Levels of Respondents

Half of the respondents (50%) had attained secondary education, while 19 percent had tertiary qualifications. Education is critical for interpreting contract terms and adopting improved agronomic practices. This aligns with Mugandani & Mafongoya (2019)who observed that higher education enhances farmers' ability to understand contracts and adopt technologies that improve profitability.

4.3.4 Main Crop under Contract with Farmtec

Figure 4.4 below shows the main crops that farmers were contracted to produce under Farmtec.

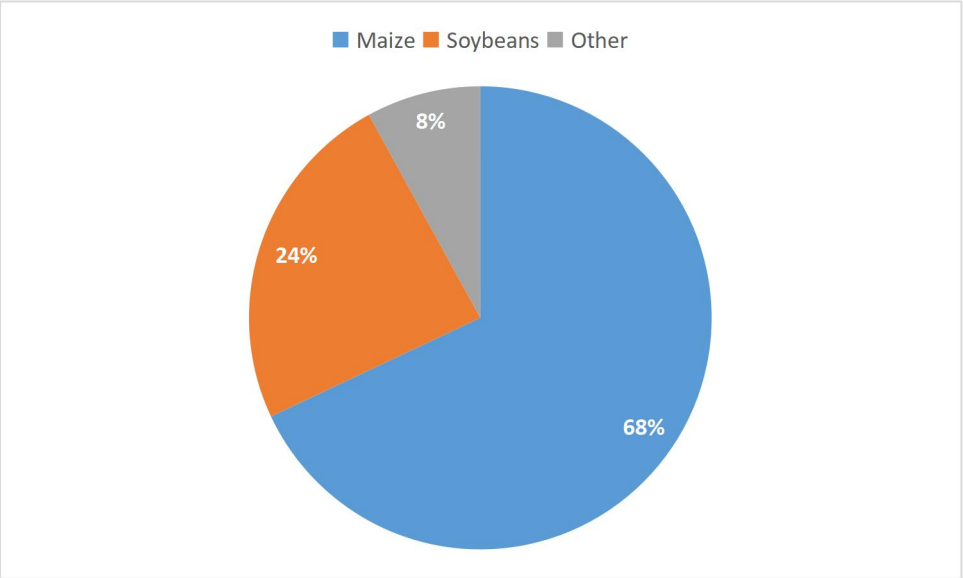

Figure 4.4: Main Crop under Contract

Most farmers (68%) were contracted for maize, with soybeans accounting for 24 percent and other crops 8 percent. This shows the predominance of maize in Farmtec's contract model, consistent with Zimbabwe's broader reliance on maize as the staple crop (ZIMSTAT, 2022). However, the inclusion of soybeans highlights attempts to diversify towards cash crops with growing market demand.

4.3.5 Years under Contract with Farmtec

Figure 4.5 below highlights the distribution of respondents according to the number of years they have been engaged in contract farming with Farmtec.

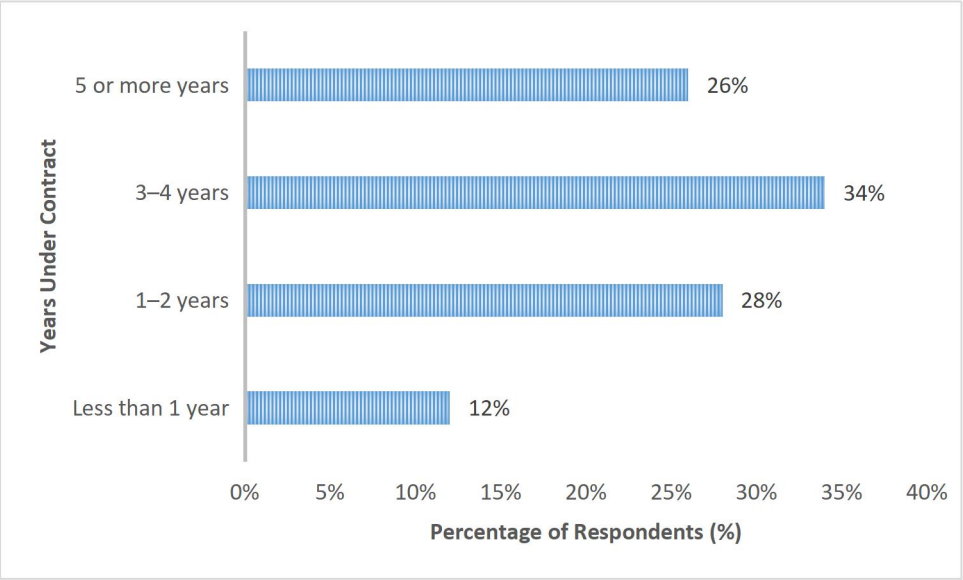

Figure 4.5: Years under Contract

Most respondents (34%) had been under contract for 3–4 years, while 26 percent had been in the scheme for 5 or more years. This demonstrates that the majority of farmers had sufficient experience to assess the profitability of contract farming. As noted by Odunze et al. (2015), farmers with longer exposure to contracts often report greater benefits because they adapt to input use, market cycles and contractual requirements over time.

4.4 To Assess the Determinants of Profitability in Contract Farming at Farmtec in Chiweshe Rural District

Table 4.2: Descriptive Statistics on Profitability Determinants

Statement	Mean Score	Std. Deviation	Mean Response
I am able to generate a profit from contract farming	3.3	1.2	Neutral–Agree
The availability of inputs (seeds, fertiliser) enhances my	4.1	0.9	Agree

profitability			
Labour availability affects my productivity and profitability	3.9	1	Agree
Transport costs reduce my overall profits	4.4	0.8	Strongly Agree
The prices offered by Farmtec are competitive and profitable	3	1.3	Neutral
Extension services improve my yields and income	3.6	1.1	Neutral–Agree

Table 4.2 below presents the descriptive statistics on the major determinants of profitability in contract farming under Farmtec. Farmers were asked to rate factors such as input availability, labour, transport, prices and extension services on a five-point Likert scale ranging from *Strongly Disagree (1)* to *Strongly Agree (5)*.

The findings show that input availability (M = 4.1) and labour availability (M = 3.9) were perceived as key profitability enhancers, whereas transport costs were identified as the main constraint (M = 4.4). Farmers expressed neutral views regarding the profitability of Farmtec's pricing structure (M = 3.0), while extension services were viewed as moderately beneficial (M = 3.6). These results indicate that profitability largely depends on reliable input supply and labour availability but is negatively influenced by high transport costs and perceived pricing limitations.

The study applied Chi-square tests to examine the associations between years under contract, crop type and profitability perception.

Table 4.3: Chi-Square Test Results

Variable Tested	χ^2	df	p-value	Interpretation
Years under contract × Profitability perception	8.72	3	0.033	Significant – Farmers with longer experience under Farmt contracts were more likely to view the model as profitab compared to newer entrants.
Crop type × Profitability perception	7.15	2	0.028	Significant – Profitability perceptions varied across crop with soybean farmers generally reporting higher profitabil compared to maize farmers.

Both variables were statistically significant ($p < 0.05$), suggesting that profitability perceptions depend on the farmer's experience with Farmtec contracts and the specific crop grown. Experienced farmers tended to view contracts more positively, while soybean farmers appeared to benefit more than maize farmers, possibly due to higher output–input ratios.

The correlation coefficient was computed to determine the relationships between input availability and profitability perception.

Table 4.4: Correlation Analysis

Variables	Pearson r	p-value	Interpretation
Input availability × Profitability perception	0.46	0.001	Moderate positive correlation

A statistically significant moderate correlation ($r = 0.46$, $p < 0.01$) was observed between input availability and profitability perception. This indicates that farmers with consistent and timely access to inputs are significantly more likely to report positive profitability outcomes than those facing shortages.

Interviews and focus group discussions with farmers, key informants and Farmtec stakeholders provided deeper perspectives into profitability determinants. Participants repeatedly noted that contract farming helps by providing inputs, but at the same time reduces profits through hidden charges and deductions.

"Inputs come on time and that helps with yields, but after deductions, the profits are too small to sustain a household." (FGD Participant)

"Transport is our biggest loss. The company charges more than local transporters, yet we have no choice but to accept it." (Farmer, FGD Participant)

"From my observation, farmers benefit from inputs and guaranteed markets, but they rarely calculate the real net margins, which are much thinner." (Key Informant)

"We try to provide everything necessary for production, seed, fertilizer, chemicals, but costs like fuel and logistics are beyond our control." (Key Informant)

"When labour is short, yields drop and farmers think the contract is the problem but really it's about production practices." (Key Informant)

The qualitative narratives align with the quantitative findings. While farmers acknowledged the importance of input availability and market security, they felt transport deductions and hidden costs undermined profitability. Extension officers and agricultural experts emphasised that profitability also depends on how well

farmers adopt agronomic practices, while Farmtec framed constraints as external economic factors such as fuel prices. Collectively, the insights reveal that profitability is shaped by a combination of support services, production practices and systemic challenges.

The findings show a strong convergence between the statistical and qualitative evidence: input and labour availability enhance profitability, while transport costs, delayed payments and input deductions reduce net margins. These results align with Kimbi et al. (2024), who found that contract farming in Tanzania increased productivity through input provision but limited net returns due to high transaction costs. Similarly, Ngigi et al. (2025) observed that logistical expenses absorbed a significant portion of smallholder farmers' profits in Kenya.

However, this study diverges by showing that farmers with longer contract experience reported higher profitability. This pattern is attributed to learning effects and improved adaptation to contract systems. This suggests that sustained participation allows farmers to internalise good farming practices and negotiate more effectively, leading to better outcomes. Profitability under Farmtec contracts appears conditional on both structural factors (transport, input pricing) and experiential factors (years under contract and crop type), reflecting a mix of institutional and operational dynamics.

4.5 To Examine the Effect of Contract Design on Profitability

Table 4.5: Descriptive Statistics on Contract Design

Statement	Mean Score	Std. Deviation	Mean Response

My contract clearly states the price I will receive	3.5	1.1	Neutral–Agree
My contract provides timely access to inputs	3.8	1	Agree
I am satisfied with the payment terms under the contract	3	1.2	Neutral
The contract allows room for negotiation or feedback	2.6	1.1	Disagree
The contract protects me from market price fluctuations	3.2	1.3	Neutral

Table 4.5 below presents the descriptive statistics showing farmers' perceptions of how contract design influences profitability under Farmtec. Respondents evaluated the clarity of pricing, payment arrangements, input provisions, negotiation flexibility and protection from market fluctuations using a five-point Likert scale.

The results indicate that while farmers generally agreed that contracts ensure timely access to inputs (M = 3.8) and moderately clear pricing (M = 3.5), they expressed dissatisfaction with payment terms (M = 3.0) and limited negotiation flexibility (M = 2.6). The neutral perception of protection from market fluctuations (M = 3.2) highlights uncertainty about whether contract provisions truly buffer farmers from volatile commodity prices. The descriptive evidence suggests that while Farmtec's contracts provide structural stability through input access and pricing clarity, they are perceived as rigid and top-down in design.

The study applied a Chi-square test to examine the association between farmers' education levels and their understanding of contract terms.

Table 4.6: Chi-Square Test Results

Variable	χ^2	df	p-value	Interpretation
Education level × Understanding of contract terms	10.96	4	0.027	Significant

The Chi-square results ($p < 0.05$) show a significant relationship between education level and understanding of contract terms. Farmers with higher education were more likely to fully comprehend their contracts compared to those with primary or no formal education. This implies that education enhances farmers' ability to interpret contractual clauses, assess profitability implications and manage obligations effectively.

Interviews and FGDs revealed that farmers, experts and Farmtec stakeholders held varying views on contract design.

"The contract is explained to us but the language is too technical. We just sign because we want inputs." (FGD Participant)

"The payment terms are slow and by the time money comes, prices of food and school fees have gone up." (FGD Participant)

"There is no room to change or question terms; it is either you take it or leave it." (FGD Participant)

"From our experience, fixed contracts are important because they protect farmers from market crashes but when the open market rises above contract prices, farmers feel cheated." (Key Informant)

"We try to make contracts transparent and protect farmers from volatility but side-selling remains a challenge because farmers sometimes chase higher spot-market prices." (Key Informant)

The qualitative data reinforce the survey findings. Farmers acknowledged the value of contracts in providing inputs and price certainty but expressed frustration with lack of negotiation, unclear language and delayed payments. Experts and extension officers 84ecognized that fixed pricing protects farmers against sudden market drops, though it also reduces flexibility when spot prices rise. Farmtec representatives defended contract design as necessary for stability but admitted communication gaps and the risk of mistrust when farmers feel locked into unfavourable terms.

The results demonstrate that contract design has a significant influence on profitability perceptions. Farmers who understood contract clauses and had clear payment expectations reported higher satisfaction and profitability, whereas those with limited comprehension viewed contracts as exploitative. This finding aligns with Sambuo and Safari (2025), who observed that well-understood and transparent contracts improved farmer retention and productivity in Tanzania's avocado sector. Similarly, Adams (2024) found that clear and flexible contract structures in Ghana enhanced both profitability and trust between farmers and firms.

However, the rigidity observed in Farmtec's contracts diverges from findings in Wiggins et al. (2020), where participatory contract negotiation improved compliance and performance. In the Zimbabwean context, the absence of negotiation reflects

asymmetric power relations common in smallholder–agribusiness arrangements. This asymmetry mirrors Nijland and Zscheischler (2023), who argue that limited farmer input during contract formulation perpetuates dependency and restricts profit potential.

4.6 To Evaluate the Contribution of Institutional Support in Enhancing Profitability

Table 4.8: Descriptive Statistics on Institutional Support

Statement	Mean Score	Std. Deviation	Mean Response
The training I received improved my farm management	3.7	1.1	Neutral–Agree
Access to credit or inputs has increased my profitability	4	0.9	Agree
Extension services provided are regular and helpful	3.4	1.2	Neutral
I can easily contact Farmtec or support institutions when needed	3.2	1.3	Neutral
Institutional support has helped me reduce production risks	3.8	1	Agree

Table 4.8 presents descriptive statistics on farmers' perceptions of institutional support and its effect on profitability in contract farming under Farmtec. Institutional support considered includes training, credit access, extension services and communication with supporting institutions.

The findings indicate that access to credit or inputs (M = 4.0**)** was rated most positively, strongly associated with improved profitability. Farmers also agreed that

institutional support helped reduce production risks (M = 3.8) and improved farm management through training (M = 3.7). However, extension service regularity (M = 3.4) and ease of communication with institutions (M = 3.2) were rated neutral, implying that institutional outreach is present but inconsistently delivered. Overall, the descriptive data suggest that institutional support enhances profitability primarily through input and credit provision, while its effectiveness is constrained by weak extension coverage and delayed support services.

A one-way ANOVA test was conducted to determine whether profitability perceptions significantly differ among farmers receiving different levels or forms of institutional support.

Table 4.9: ANOVA Results

Source	**SS**	**df**	**MS**	**F**	**p-value**	**Interpretation**
Between groups	12.54	3	4.18	3.47	0.022	Significant
Within groups	79.32	66	1.2			
Total	91.86	69				

The ANOVA results show a statistically significant difference in profitability perceptions across groups receiving varying levels of institutional support ($F = 3.47$, $p < 0.05$). Farmers who benefited from both credit and extension services reported the highest profitability, while those with limited or no institutional support recorded the lowest. This demonstrates that comprehensive support packages combining credit, training and extension are more effective in enhancing profitability than fragmented interventions.

A correlation analysis was also performed to examine the relationship between credit access and profitability perception.

Table 4.10: Correlation Analysis

Variables	**Pearson r**	**p-value**	**Interpretation**
Access to credit × Profitability perception	0.51	0.000	Strong positive correlation

The correlation coefficient ($r = 0.51$, $p < 0.01$) indicates a strong, statistically significant positive relationship between credit access and profitability perception. This implies that access to financial resources enables farmers to obtain timely inputs, manage cash flow and invest in productivity-enhancing practices, ultimately leading to greater profitability in contract farming.

The qualitative data from interviews and focus group discussions provided nuanced perspectives on the role and limitations of institutional support:

"We get training but it is too short and sometimes comes after planting, so it does not help much." (FGD Participant)

"Credit support is helpful because most of us cannot afford inputs on our own. But the repayments through deductions leave us with very little cash in hand." (FGD Participant)

"We try to cover every farmer but the reality is that extension staff are too few, so only a handful get regular visits." (Key Informant)

"Institutional support reduces risk, especially for smallholders but unless training is continuous, farmers revert to old practices." (Key Informant)

"Farmtec provides inputs and market access as a package which is already a major support system compared to farming independently." (Key Informant)

The qualitative findings confirm the survey evidence that institutional support plays an important role in enhancing profitability. Credit and input provision were valued the most, although farmers expressed concerns over the size of deductions at harvest. Training and extension services were acknowledged but criticised for being irregular and sometimes poorly timed. Experts admitted structural limitations, including staff shortages, while Farmtec defended its institutional support model as a complete package. The interplay of these voices suggests that institutional support is indispensable for contract farming profitability but its effectiveness depends on accessibility, timeliness and depth of engagement.

The findings reveal that institutional support significantly contributes to profitability by enhancing access to credit, inputs and risk management mechanisms. Farmers who received comprehensive support packages experienced higher productivity and profitability, aligning with findings by Mutambara and Moyo (2024), who established that institutional linkages improved farm incomes among Zimbabwean smallholders under contract schemes. Similarly, Kansiime et al. (2023) found that credit and extension services improved yield performance and reduced income variability among smallholder farmers in Uganda.

However, the present study diverges from Mavedzenge et al. (2021), who observed limited institutional impact due to bureaucratic inefficiencies and delayed service delivery in Zimbabwean agricultural programmes. In this study, while Farmtec provides support, the irregularity and partial coverage of extension services mirror the systemic institutional weaknesses noted across Sub-Saharan Africa.

4.7 To Assess the Impact of Macroeconomic Conditions on Profitability

Table 4.11: Descriptive Statistics on Macroeconomic Conditions

Statement	Mean Score	Std. Deviation	Mean Response
Macroeconomic instability increases my production costs	4.3	0.9	Agree–Strongly Agree
High inflation negatively affects my profit margins	4.5	0.7	Strongly Agree
Policy changes have impacted my contract farming activities	3.8	1.1	Agree
Exchange rate fluctuations reduce the value of my earnings	4.2	0.8	Agree
Fuel shortages affect my ability to deliver crops profitably	4.1	1	Agree

Table 4.11 below presents the descriptive statistics on farmers' perceptions of how macroeconomic factors such as inflation, fuel shortages, exchange rate fluctuations and policy changes affect profitability under Farmtec's contract farming scheme

The results indicate that farmers perceived inflation (M = 4.5) as the most detrimental factor to profitability, followed by macroeconomic instability (M = 4.3)

and exchange rate fluctuations (M = 4.2). Fuel shortages (M = 4.1) were also widely recognised as major cost drivers. Policy changes (M = 3.8) had a moderate but notable effect. The data show that macroeconomic volatility undermines profitability by eroding margins and increasing input and transport costs.

To assess the statistical influence of macroeconomic variables on profitability perceptions, Chi-square and regression analyses were conducted.

Table 4.12: Chi-Square Test Results

Variable	**χ^2**	**df**	**p-value**	**Interpretation**
Inflation perception × Profitability perception	9.34	2	0.01	Significant

The Chi-square test revealed a statistically significant relationship between inflation perception and profitability perception ($p < 0.05$). Farmers who strongly agreed that inflation eroded their profits were significantly more likely to perceive contract farming as unprofitable. This demonstrates that inflation is a critical factor influencing profitability perceptions.

To complement these findings, a multiple regression analysis was conducted to determine the combined predictive influence of macroeconomic variables on profitability.

Table 4.13: Multiple Regression Results

Predictor	**Beta**	**t-value**	**p-value**	**Interpretation**

Inflation	-0.42	-3.91	0.000	Significant negative predictor
Exchange rate fluctuations	-0.28	-2.74	0.008	Significant negative predictor
Fuel shortages	-0.22	-2.18	0.033	Significant negative predictor
Policy changes	-0.12	-1.21	0.23	Not significant

The regression results show that inflation ($\beta = -0.42$, $p < 0.01$), exchange rate fluctuations ($\beta = -0.28$, $p < 0.01$) and fuel shortages ($\beta = -0.22$, $p < 0.05$) are significant negative predictors of profitability perceptions. Policy changes, though reported as disruptive, were statistically insignificant in predicting profitability. This implies that while regulatory uncertainty contributes to operational challenges, macroeconomic instability especially inflation and currency volatility remains the primary constraint undermining profitability in contract farming.

Interviews and FGDs revealed strong concerns over how macroeconomic instability undermines profitability. Farmers and experts described real challenges caused by rising costs and volatile exchange rates, while Farmtec acknowledged systemic pressures but presented them as beyond its control.

"We are paid late and sometimes in local currency which loses value before we even use it." (FGD Participant)

"By the time deductions are calculated, fertiliser that was US$30 at the start of the season is now US$50. We lose more every year." (FGD Participant)

"Macroeconomic instability is the biggest obstacle farmers cannot plan because input and fuel prices change overnight." (Key Informant)

"We struggle to access fuel too and it delays collections. These are national issues, not just Farmtec's problems." (Key Informant)

"When government policies change suddenly, like export restrictions, farmers feel trapped because contracts cannot adjust fast enough." (Key Informant)

The qualitative findings reinforce the survey evidence. Farmers consistently linked inflation and delayed payments in ZWL to declining profit margins. Extension officers and experts stressed that the unpredictability of input and fuel prices makes production planning almost impossible. Farmtec representatives acknowledged the problem but framed it as an external national challenge that affects both farmers and the company. Collectively, these insights highlight that macroeconomic conditions are a systemic constraint that significantly undermines the profitability of contract farming, regardless of the support provided through contracts.

These findings clearly demonstrate that macroeconomic instability has a profound negative impact on the profitability of contract farming. These results corroborate Chinembiri and Mudzonga (2024), who found that hyperinflation and currency volatility reduced real returns for Zimbabwean farmers under contract schemes. Similarly, Mugova et al. (2023) established that macroeconomic shocks in Zimbabwe's agricultural sector distorted input markets, increased operational costs and reduced investment confidence among both farmers and contractors.

These findings also align with Ncube and Mapfumo (2022), who noted that unstable macroeconomic conditions undermine long-term agricultural contracts by eroding

trust between contracting parties and creating liquidity shortages. However, the present study diverges from Okello et al. (2021), who found that in relatively stable economies such as Kenya, macroeconomic effects were secondary to production-level inefficiencies. In Zimbabwe's case, macroeconomic shocks are the dominant determinant of profitability due to currency depreciation, unpredictable inflation and inconsistent fuel supply chains.

4.8 Chapter Summary

This chapter analysed the profitability of contract farming at Farmtec in Chiweshe using both survey and interview data. A 76 percent response rate ensured reliable findings, with most respondents being middle-aged, male and contracted mainly for maize. Results showed that while access to inputs and credit enhanced profitability, transport costs, delayed payments and limited contract flexibility undermined returns. Institutional support was valued, though training and extension services were irregular. Macroeconomic factors, especially inflation, fuel shortages and exchange rate volatility, emerged as the strongest external barriers to profitability. Overall, the findings highlight that both contractual arrangements and Zimbabwe's unstable economic environment shape farmer perceptions of profitability under Farmtec contracts.

CHAPTER 5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion, conclusions, implications and recommendations drawn from the study on the profitability of contract farming at Farmtec in Chiweshe Rural District. The aim is to interpret the findings in light of the research objectives and the broader literature, while also highlighting their practical and policy relevance. The preceding chapter demonstrated that profitability under Farmtec contracts is shaped by a combination of internal factors, such as input access, contract design, and institutional support, as well as external pressures from Zimbabwe's volatile macroeconomic environment. In this chapter, the results are critically discussed, conclusions are drawn, and practical recommendations are made for improving contract farming arrangements. The chapter further outlines implications for policy and practice and identifies areas that require further research.

5.2 Discussion

The findings revealed that while access to inputs and labour enhances profitability, transport costs and hidden deductions significantly reduce farmers' net earnings. This means that the profitability of contract farming under Farmtec is not determined by production capacity alone but also by the broader cost structures embedded in the contracts. The strong correlation between input access and profitability highlights the importance of input credit as a driver of productivity. However, the fact that transport costs consistently eroded profits indicates a structural weakness in the scheme. This suggests that profitability is highly conditional: farmers gain from improved yields,

but much of this gain is absorbed by logistical and transactional costs. The implication is that without reforms in cost-sharing and transparency of deductions, farmers will continue to view profitability as marginal rather than transformative.

The study showed that while contracts ensured price stability and timely input delivery, they lacked flexibility and were poorly understood by less-educated farmers. This demonstrates that contract design, though intended to protect both farmers and buyers, often entrenches power imbalances in practice. The lack of negotiation rights and delayed payments reinforced perceptions of unfairness, even when contracts shielded farmers from volatile spot markets. This indicates that contract farming's potential is undermined when farmers perceive themselves as passive participants rather than equal partners. Clearer communication of terms, especially in accessible language, could improve farmer trust and ultimately strengthen compliance with contracts.

Access to credit and inputs emerged as the most valuable forms of institutional support, strongly influencing profitability perceptions. However, training and extension services were inconsistently delivered, limiting their long-term impact. This points to a situation where institutional support is heavily skewed toward short-term input provision rather than capacity building. While inputs and credit provide immediate productivity benefits, weak extension undermines farmers' ability to optimise their practices and sustain profitability over multiple seasons. The discussion therefore highlights a gap between provision and empowerment: institutional support needs to shift from merely supplying resources to equipping farmers with skills and knowledge that enable independent decision-making and resilience.

The study confirmed that inflation, exchange rate volatility and fuel shortages are the strongest external barriers to profitability. This underscores the reality that even well-structured contracts cannot fully protect farmers from Zimbabwe's unstable macroeconomic environment. Farmers' losses due to delayed ZWL payments and rising input costs demonstrate that macroeconomic instability has a stronger effect on profitability than contract or institutional factors. This suggests that contract farming in Zimbabwe cannot be evaluated in isolation from the wider economic system: until inflationary pressures and currency instability are addressed at national level, the profitability of such schemes will remain precarious.

5.2.1 Conclusion

The study concludes that while contract farming under Farmtec improves productivity through reliable input provision and access to labour, profitability remains fragile because hidden and unavoidable costs absorb much of the income. In practice, this means that profitability is not a straightforward outcome of higher yields but is shaped by structural cost burdens such as transport and deductions. Farmers therefore experience contract farming as a system that secures production but delivers only marginal improvements in household income.

The findings lead to the conclusion that contract design in its current form reinforces unequal relationships between farmers and Farmtec. While contracts provide stability and inputs, their rigidity, complex language and delayed payments limit farmer agency and reduce perceptions of fairness. This suggests that contract farming, as currently structured, functions more as a mechanism of control for the contracting company than as a partnership that shares risks and rewards equitably.

It can be concluded that institutional support plays a decisive role in enabling farmers to benefit from contract farming but the current support model prioritises provision over empowerment. Credit and input support have immediate benefits but weak extension and irregular training undermine long-term profitability. This means that profitability under Farmtec contracts is sustained more by institutional dependency than by farmer self-sufficiency, leaving farmers vulnerable if external support declines.

The study concludes that macroeconomic instability is the single greatest barrier to profitability in contract farming, outweighing even contract or institutional factors. Inflation, exchange rate volatility and fuel shortages consistently erode farmer margins, demonstrating that profitability is structurally dependent on the wider economic environment. This means that no matter how well contracts are designed or institutions provide support, farmers' profitability will remain insecure until Zimbabwe's macroeconomic volatility is resolved.

5.3 Implications

The conclusions of this study carry several important implications for farmers, contracting companies such as Farmtec, policymakers and researchers. The finding that profitability is undermined by hidden costs such as transport deductions implies that greater transparency and fairness in cost-sharing arrangements are needed. For farmers, this highlights the importance of financial literacy and negotiation capacity so that they can evaluate not just yields but also true net margins. For Farmtec, it implies that maintaining farmer loyalty and compliance will depend on introducing more equitable systems that limit exploitative deductions and improve trust in the scheme.

The conclusion that contract design reinforces unequal relationships implies a need for structural reforms in how contracts are developed and communicated. Policy frameworks should require that contracts are written in clear and accessible language, with provisions for dispute resolution and farmer input in design. This has direct implications for farmer empowerment and contract enforcement, as more transparent and participatory arrangements could reduce side-selling and enhance compliance.

The recognition that institutional support currently prioritises provision over empowerment suggests that profitability in contract farming depends heavily on continued external input supply rather than on building farmer independence. The implication is that government agencies, NGOs and contracting firms need to shift towards capacity-building support models that emphasise skills, knowledge and resilience, rather than resource dependency. This has broader theoretical implications for contract farming literature, as it highlights the difference between short-term productivity gains and long-term sustainability of farmer profitability.

Finally, the conclusion that macroeconomic instability is the greatest barrier to profitability implies that contract farming cannot be evaluated in isolation from Zimbabwe's economic environment. This suggests that policy measures aimed at stabilising inflation, ensuring currency predictability and improving fuel supply are fundamental to the viability of contract farming schemes. For policymakers, this underlines the need for macroeconomic reforms as a prerequisite for agricultural profitability, while for researchers it signals the importance of integrating economic context into assessments of contract farming.

5.4 Recommendations

Based on the study's conclusions and implications, several recommendations are proposed to enhance the profitability of contract farming under Farmtec in Chiweshe.

5.4.1 Farmers to implement a simple, yet comprehensive record-keeping system

Farmers should be encouraged to strengthen their financial literacy and record-keeping practices so they can clearly evaluate net margins beyond yields. They should also form or strengthen farmer associations to increase bargaining power and create platforms for collective negotiation with Farmtec. This would reduce the asymmetry in contract relationships and ensure that farmers can influence cost structures such as transport deductions.

5.4.2 The Company (Farmtec) to Review Its Cost-Sharing and Payment Arrangements

Farmtec should review its cost-sharing structure, particularly transport deductions, to promote transparency and fairness in its financial dealings with farmers. Payments should be made promptly and, where possible, in a stable currency such as the United States dollar to protect farmers from income erosion caused by inflation. The company should also simplify and translate contract documents into local languages so that farmers can easily understand the terms and conditions before signing. Furthermore, Farmtec must establish clear feedback and grievance mechanisms to allow farmers to raise and resolve contract-related issues. Beyond financial and contractual reforms, the company should increase investment in continuous farmer training and extension services. This shift from mere input provision toward farmer

empowerment would strengthen production efficiency, promote trust, and enhance the long-term sustainability and profitability of the contract farming model..

5.4.3 Policymakers and Government to Strengthen Regulatory Oversight and Macroeconomic Stability

Policymakers and government agencies should enhance regulatory oversight of contract farming to ensure that agreements between farmers and contracting firms are fair, transparent, and enforceable. Legislation should mandate companies to disclose all deductions clearly and provide accessible, impartial dispute resolution mechanisms to protect smallholder farmers from exploitation. Furthermore, government intervention is required at the macroeconomic level to stabilise inflation, strengthen currency predictability, and ensure reliable fuel supply chains. These factors are vital for maintaining profitability in agricultural contracts. Investment in rural infrastructure like road networks and transport systems, should also be prioritised, as poor infrastructure significantly increases production and delivery costs.

5.4.4 Supporting Institutions to Prioritise Farmer Capacity Building and Collaborative Support

Supporting institutions like NGOs, extension services, and financial institutions should focus on developing programmes that build farmer capacity rather than perpetuating dependency. Continuous training in agronomic practices, contract interpretation, and financial management is essential to equip farmers with the skills needed for independent and informed decision-making. Financial institutions should design flexible and inclusive credit models that allow manageable repayment

schedules to ensure that farmers retain adequate disposable income after harvest. Collaborative partnerships between NGOs, government agencies, and Farmtec should also be strengthened to pool technical and financial resources, improve coordination, and expand the reach of extension services.

5.5 Suggestions for Further Research

The research was limited to a single company and geographic area which may not fully capture variations in contract farming practices across Zimbabwe. Future studies could adopt comparative designs involving multiple contracting companies or districts to provide a broader understanding of profitability outcomes.

This study focused primarily on farmer perceptions and institutional perspectives without conducting a detailed cost–benefit analysis at the household level. Future research could incorporate farm-level financial records to quantify actual profits and losses more precisely, complementing perception-based findings.

Although this study examined profitability determinants, contract design, institutional support and macroeconomic conditions, it did not explore gender dynamics in depth. Considering that women often face structural disadvantages in access to contracts and resources, further research could investigate how gender shapes participation and profitability in contract farming.

Future research could adopt longitudinal approaches to track farmers over several seasons. This would make it possible to assess how long-term participation in contracts affects profitability, household welfare and resilience to macroeconomic shocks. Such evidence would strengthen policy interventions by showing whether the benefits of contract farming accumulate, stagnate, or decline over time.

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APPENDICES

APPENDIX 1: Survey Questionnaire

Research Questionnaire

Title: *Assessing the Profitability of Contract Farming at Farmtec in Chiweshe Rural District*

Instructions: Please answer all questions honestly. Tick the appropriate boxes or circle the most suitable response.

Section A: Demographic Information

1. Gende**r**:

   ☐ Male ☐ Female ☐ Prefer not to say

2. Age group:

   ☐ Below 30 ☐ 31–40 ☐ 41–50 ☐ 51–60 ☐ Above 60

3. Education level:

   ☐ No formal education ☐ Primary ☐ Secondary ☐ Tertiary

4. Main crop under contract with Farmtec:

   ☐ Maize ☐ Soybeans ☐ Other (Please specify): _____

5. Years under contract with Farmtec:

   ☐ Less than 1 ☐ 1–2 ☐ 3–4 ☐ 5 or more

Section B: Factors of Profitability

Indicate your level of agreement with the following statements:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am able to generate a profit from contract farming.	☐	☐	☐	☐	☐
The availability of inputs (seeds, fertiliser) enhances my profitability.	☐	☐	☐	☐	☐
Labour availability affects my productivity and profitability.	☐	☐	☐	☐	☐
Transport costs reduce my overall profits.	☐	☐	☐	☐	☐
The prices offered by Farmtec are competitive and profitable.	☐	☐	☐	☐	☐
Extension services improve my yields and income.	☐	☐	☐	☐	☐

Section C: Contract Design

1. Type of contract you signed with Farmtec (tick all that apply):

   ☐ Fixed price contract ☐ Input supply contract ☐ Output-only contract ☐ Not sure

2. Do you fully understand the terms and conditions of your contract?

   ☐ Yes ☐ No ☐ Partially

3. Indicate your agreement with the following statements:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My contract clearly states the price I will receive.	☐	☐	☐	☐	☐
My contract provides timely access to inputs.	☐	☐	☐	☐	☐
I am satisfied with the payment terms under the contract.	☐	☐	☐	☐	☐
The contract allows room for negotiation or feedback.	☐	☐	☐	☐	☐
The contract protects me from market price fluctuations.	☐	☐	☐	☐	☐

Section E: Macroeconomic Conditions

1. How have the following factors affected your farming profits?

Factor	Decreased Profit	No Change	Increased Profit
Inflation	☐	☐	☐
Input prices	☐	☐	☐
Fuel availability	☐	☐	☐

Exchange rate fluctuations	☐	☐	☐
Government policy changes	☐	☐	☐

2. Indicate your agreement with the following:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Macroeconomic instability increases my production costs.	☐	☐	☐	☐	☐
High inflation negatively affects my profit margins.	☐	☐	☐	☐	☐
Policy changes have impacted my contract farming activities.	☐	☐	☐	☐	☐

Section D: Recommendations for Improvement

In your opinion, what would most improve the profitability of contract farming under Farmtec?

☐ Better pricing mechanisms

☐ Timely delivery of inputs

☐ Improved access to credit

☐ Better contract terms

☐ Stronger institutional support

☐ Other (please specify): _____

Please suggest any specific actions Farmtec, government, or other institutions can take to improve profitability in contract farming:

Section F: Overall Satisfaction

1. How satisfied are you overall with contract farming under Farmtec?

   ☐ Very dissatisfied ☐ Dissatisfied ☐ Neutral ☐ Satisfied ☐ Very satisfied

2. Would you recommend contract farming to other small-scale farmers?

   ☐ Yes ☐ No ☐ Not sure

3. In your opinion, what should be improved in contract farming arrangements?

APPENDIX 2: Semi-structured Interview Guide

Semi Structured Interview Guide

Study Title: *Assessing the Profitability of Contract Farming at Farmtec in Chiweshe Rural District*

Interview Type: Semi-Structured (face-to-face)

Target Respondents: Agricultural experts and Farmtec Zimbabwe representatives

A. Introduction

- Greet the respondent and introduce yourself and the study.
- Explain the purpose of the interview and its voluntary nature.
- Request consent for participation and for audio recording.
- Assure confidentiality and anonymity.

B. Warm-Up Questions

1. Can you tell me about your role in contract farming?
2. How long have you been involved in contract farming in Chiweshe?

C. Profitability Factors

3. In your experience, what are the main factors that influence profitability in contract farming?
4. How do input availability (seeds, fertilisers, pesticides) affect your productivity and income?
5. What are the major costs that reduce your profit margins?
6. How do transport, labour and post-harvest handling affect your returns?
7. Would you say contract farming has improved your income compared to independent farming?

D. Contract Design

8. How clear and fair are the contract terms provided by Farmtec?
9. Do you feel that the contract allows for flexibility or negotiation?
10. Are you satisfied with the pricing arrangements in your contract?
11. How are disputes or misunderstandings handled in your contract experience?

12. What would you change about the current contract model to improve profitability?

E. Macroeconomic Conditions

17. How have broader economic issues like inflation or exchange rates affected your farming operations and income?
18. Have input prices or fuel shortages impacted your ability to farm profitably?
19. Have any recent policy changes (e.g., taxes, subsidies, import/export rules) influenced your contract performance?

E. Recommendations for Improvement

20. Based on your experience, what specific strategies or interventions do you believe could improve the profitability of contract farming under Farmtec?
21. What changes would you recommend regarding input provision, pricing, or payment systems?
22. Are there any policy or institutional changes you think would enhance profitability for farmers?
23. How can Farmtec or its partners better support farmers to improve their earnings?

G. General Reflections

24. Overall, what has been your experience with contract farming under Farmtec?
25. What are the key challenges you have faced?
26. What suggestions would you make to improve profitability for farmers like yourself?

H. Closing

- Thank the respondent for their time and valuable insights.
- Ask if they have any questions or final comments.
- Remind them of how their data will be used and how they can access the final report (if applicable).

APPENDIX 3: AUREC Approval

"Investing in Africa's future"

AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE (AUREC)

P.O. Box 1320 Mutare, Zimbabwe, Off Nyanga Road, Old Mutare-Tel (+263-20) 60075/60026/61611 Fax: (+263 20) 61785 Website: www.africau.edu

Ref: AU3432/25

3 September, 2025

TRISH WINNIE MUZAZA
C/O Africa University
Box 1320
MUTARE

RE: ***THE PROFITABILITY OF CONTRACT FARMING AT FARMTEC IN CHIWESHE RURAL DISTRICT, ZIMBABWE***

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

The approval is based on the following.

a) Research proposal

- **APPROVAL NUMBER** AUREC 3432/25
  This number should be used on all correspondence, consent forms, and appropriate documents
- **AUREC MEETING DATE** NA
- **APPROVAL DATE** September 3, 2025
- **EXPIRATION DATE** September 3, 2026
- **TYPE OF MEETING**: Expedited
  After the expiration date, this research may only continue upon renewal. A progress report on a standard AUREC form should be submitted a month before the expiration date for renewal purposes.
- **SERIOUS ADVERSE EVENTS** All serious problems concerning subject safety must be reported to AUREC within 3 working days on the standard AUREC form.
- **MODIFICATIONS** Prior AUREC approval is required before implementing any changes in the proposal (including changes in the consent documents)
- **TERMINATION OF STUDY** Upon termination of the study a report has to be submitted to AUREC.

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

Yours Faithfully

MARY CHINZOU
FOR CHAIRPERSON
AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE