

**Bindura University
of Science Education**



Faculty of Agriculture and Environmental Science

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An investigation on the factors affecting coffee marketing in Zimbabwe among smallholder farmers.

Submitted by

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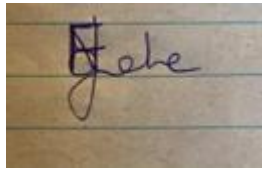
DECLARATION

I, Fanuel P. Ngwende, declare that this dissertation titled An Investigation on the Factors Affecting Coffee Marketing in Zimbabwe among Smallholder Famers in Chipinge and Mutasa (Honde Valley), is my original work and has not been submitted elsewhere for any degree or qualification. I acknowledge that I have received guidance and support from my supervisor, Dr. N Mafuse, and other academic staff during this research, but the intellectual content and presentation of this dissertation are entirely my own. I have followed the guidelines and regulations of the Bindura University of Science Education regarding plagiarism and academic integrity, and I have properly cited and referenced all sources of information used in this dissertation.

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Date: 10 October 2025

DEDICATION

This research is dedicated to my fellow students, my friends, my parents, and all Smallholder coffee farmers in Zimbabwe. I hope all of them will understand the factors affecting their coffee marketing.

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Firstly, I would like to express myself by showing much appreciation to the Lord Almighty for guidance, strength and for taking me throughout this academic journey. I would also like to express my sincere gratitude to my astoundingly supportive supervisor Dr. N. Mafuse for guidance, assistance, patience, protection, sharing brilliancy and extracting the astonishing capabilities in me within this journey. This research would not been possible without my supervisor, may the God Almighty abundantly bless him for his valuable input and super suggestions in this research journey. Much appreciation also to the academic research coordinator, Dr. I. Govere for the facilitation, guidance, enforcement for which in his works, it made the work easier and quicker to being done, blessings to him. More so, much thanks to the entire department for the guidance and assistance and even equipping me with the knowledge that I now have for which we shared for the past four years, the tertiary knowledge that I am currently having is all by your efforts, I am indebted to you all as I will express your teachings in expertise of my future skills in particular.

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ABSTRACT

The purpose of this study was to explore factors influencing coffee marketing among smallholder farmers in Mutasa district (Honde Valley) and Chipinge in Zimbabwe. This was motivated by the fact that literature on coffee farming did not cover much on coffee marketing. The study seeks to critically investigate the factors influencing coffee marketing among smallholder farmers in Zimbabwe and provide actionable recommendations to future smallholder coffee farmers in Manicaland province. The study collected data through both quantitative (household questionnaires) and qualitative (interviews and FDGs) methods. It adopted the Yamane sample size determination method whereby a sample size of 200 smallholder coffee farmers was interviewed in Manicaland specifically Honde Valley and Chipinge to investigate the factors influencing coffee marketing. The sample size of 200 smallholder farmers consisted of both male and female with different age groups. The study made use of econometric models (Multinomial regression models) to ascertain differences and effects on the outcome variable market access, (market channels which are either collectively or individually). Descriptive statistics were used to analyse the socio-economic factors influencing coffee marketing among smallholder farmers in Zimbabwe. A binary regression analysis was employed to assess the influence of institutional factors on coffee marketing among smallholder farmers. The majority of smallholder farmers operate on very small plots, with 69% owning less than two hectares and 37.5% cultivating less than one hectare and educationally 60.5% had secondary education and only 3% having tertiary education. The gender imbalance (only 66.5% male dominance) and low credit access (only 4.5%). The Pseudo R-Square values (Nagelkerke = 0.618, McFadden = 0.375) indicate that the model has strong explanatory power, particularly for behavioural data in agricultural marketing context. This paradox highlights that the model structure accurately reflects the data distribution. Institutional factors lacked statistical significance (Omnibus $p = 0.650$) and explanatory power was low (Nagelkerke $R^2 = 0.079$), although Hosmer and Lemeshow test showed that the model was well-calibrated ($p = 0.740$). The study recommends that, it is essential to confront structural obstacles (related to land, labour and credit) and systematic deficiencies (in market access and institutional support. A comprehensive strategy that merges cooperative frameworks, infrastructure development, gender fairness and institutional reforms to empower farmers shift from mere survival to active and profitable market participators.

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LIST OF ACRONYMS AND ABBREVIATIONS

ZCM	Zimbabwe Coffee Mill
CGA	Coffee Growers Association
GDP	Gross Domestic Product
HDC	Horticultural Development Council
GMB	Grain Marketing Board
MLAFWRD	Ministry of Land, Agriculture, Fisheries, Water and Rural Development
WB	World Bank
FAO	Food and Agriculture Organisation
HSM	Hub and Spoke Model
AC	African Countries
WA	West Africa
HV	Honde Valley
ICO	International Coffee Organisation
ICA	International Coffee Association
USA	United States of America
SA	South Africa
CVF	Crake Valley Farm
TTE	Tanganda Tea Estate
SPSS	Statistical Package for Social Scientists
FDGs	Focus Group Discussions
ME	Middle East
EU	European Union
FTLRP	Fast Track Land Reform Program

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Coffee (*Coffea arabica. L*) Is a perennial tree crop that belongs to the family Rubiaceae, genus *Coffea* (Ferreira et al., 2019). Coffee significantly impacts a substantial portion of Zimbabwe's economy and has been cultivated since the 1960s (Palgrave., 2016). The regions dedicated to coffee farming are primarily situated in Zimbabwe's Eastern Highlands, at elevations ranging from 900 to 1300 meters above sea level in areas such as Chipinge, Chimanimani, Mutare and Mutasa (Honde Valley), where the natural climate closely aligns with its needs, as well as in the northern districts like Guruve, Harare and Mhangura under controlled conditions (Chemura A., 2016). While coffee can thrive naturally, it is replanted periodically to maintain the vitality of the plants and to guarantee the production of excellent-quality Arabica coffee.

Coffee has its roots in the forests of the Ethiopian highlands (Deribe., 2019). It stands as one of the key agricultural products in the global market, cultivated across roughly 10.3 million hectares and serves as the primary source of income for over 25 million households (Chemura A., 2016). More than 60 countries engage in its production and export, with it being a leading cash crop in numerous developing nations. For certain African nations such as Zimbabwe, coffee significantly contributes to export earnings, making up over 30 percent of total agricultural exports and playing a crucial role in GDP and tax revenue for many African countries (Brief., 2010). Coffee plantations help preserve forest biodiversity, mitigate soil erosion and prevent veld fires. They also enhance living conditions for people and provide habitats for various animal species.

Despite coffee's critical role in the economies of numerous nations and its numerous advantages, productivity remains disappointingly low. Various biotic, abiotic, economic and social issues that farmers encounter significantly impacts the decrease in coffee output (Ward., 2007). Unpredictable climatic conditions harm coffee yields. At present, climatic variations driven by increasing temperatures and erratic rainfall pose serious challenges to coffee farming. Heavy and sudden rains during the harvesting and processing stages diminish the quality of the coffee produced. Additionally, rising daytime temperatures hinder growth and flowering since plants are vulnerable. Landslides ruin acres of arable land, leading to the degradation of soil health, making vast areas

unsuitable for farming (Blundo Canto., 2015). On the social front, education plays a crucial role. Many farmers lack awareness of effective cultivation practices and marketing due to illiteracy. Over 90% of farmers operate on small to medium scale. With market prices being low and insufficient government assistance, many farmers are losing interest in coffee production (Gathura., 2013), prompting them to pursue alternative source of income.

Access to updated and relevant market data empowers farmers to align their production with consumer demand; organize their harvests for optimal profitability (Blundo Canto., 2015) and determine which markets to target for their goods while also negotiating more effectively with buyers (Rungerinyange, 2023). By utilising market insights, farmers enhance their decision-making and confidence about what to cultivate and how much to invest, fostering a more competitive marketing framework that favour both producers and consumers through improved distribution and strengthens farmers' positions in dealings with traders (Rungerinyange, 2023). The clarity within the market framework motivates farmers and producers, along with traders, to increase their output as it lowers the risk associated with market engagement and ensures effective communication of market signals (Rungerinyange, 2023).

The industry has nearly been devastated, with output plummeting to an unprecedented low of 208 metric tons in 2010. Numerous larger commercial and smaller farmers left the industry, reducing the active large-scale producers to just two (Crake Valley Farm PLC and Tanganda Tea Estates), overseeing 300 hectares alongside 392 smallholders on 79 hectares. For the remaining coffee growers, coffee remains a preferred crop with significant potential. The average prices for the 2016/2017 season, which stood at US\$6 per kilogram, established coffee as one of the most profitable farming ventures (Midway Bhunu, 2022). However, through the Nespresso Zimbabwe Coffee Revival initiative, Nespresso has facilitated training for farmers in in coffee cultivation while concurrently offering a valuable market that pays premium prices for higher-quality. This intervention marked a turnaround for the coffee industry. Many growers who had previously left coffee cultivation began returning. (Midway Bhunu, 2022), before Nespresso's involvement, it is noted that merely 300 coffee farmers were still active. Presently, there are more than 1500 engaged farmers, and production is gradually increasing at an approximate annual rate of 10 percent (Midway Bhunu, 2022).

The sector enjoyed robust backing from the Coffee Growers Association, which is driven by major commercial coffee producers alongside smaller growers, as stated by (Midway Bhunu, 2022). The association offered support services, created informational materials regarding coffee cultivation and played a crucial role in establishing the Zimbabwe Coffee Mill (ZCM) to enhance marketing efforts. In spite of a decline in global farm gate prices during the early 2000s, coffee values have seen an upward trend averaging around US\$0.78 per kilogram in 2017, as noted by (Midway Bhunu, 2022). This amount is higher relative to average costs for maize and horticultural goods... Local farm gate prices in Zimbabwe for the 2016/2017 season reached up to US \$6 per kilogram for green coffee beans. This rate aligns with what Nespresso pays for high grade coffee. The launch of the Zimbabwe Coffee Mill (ZCM) in 1992, operated by farmers empowered coffee producers with improved oversight of their collection and processing operations. This development instilled confidence among farmers particularly smallholders who previously encountered difficulties when selling their coffee exclusively to the Grain Marketing Board. ZCM serves as a centralized resource for farmers, enabling them to obtain loans or purchase supplies on credit through a stop order system conducted by the mill, according to (Midway Bhunu, 2022).

Currently, coffee is offered in its green form rather than pre-roasted. The coffee industry association, in collaboration with the Horticultural Development Council and supported by the Ministry of Lands, Agriculture, Fisheries, Water and Rural Development anticipates an investment exceeding 2,000 metric tons annually which should generate more than USD10 million each year. This output will come from 1,300 smallholder farmers and 10 medium-scale producers utilising a Hub and Spoke Model. This model features a central farm that connects with smaller or medium-sized producers, achieving coordinated production of commodity for seamless aggregation, as detailed by (Midway Bhunu, 2022). The central hub supplies inputs, financial assistance, training and access to market to the spokes, represented by smallholder farmers as illustrated in Figure 1.

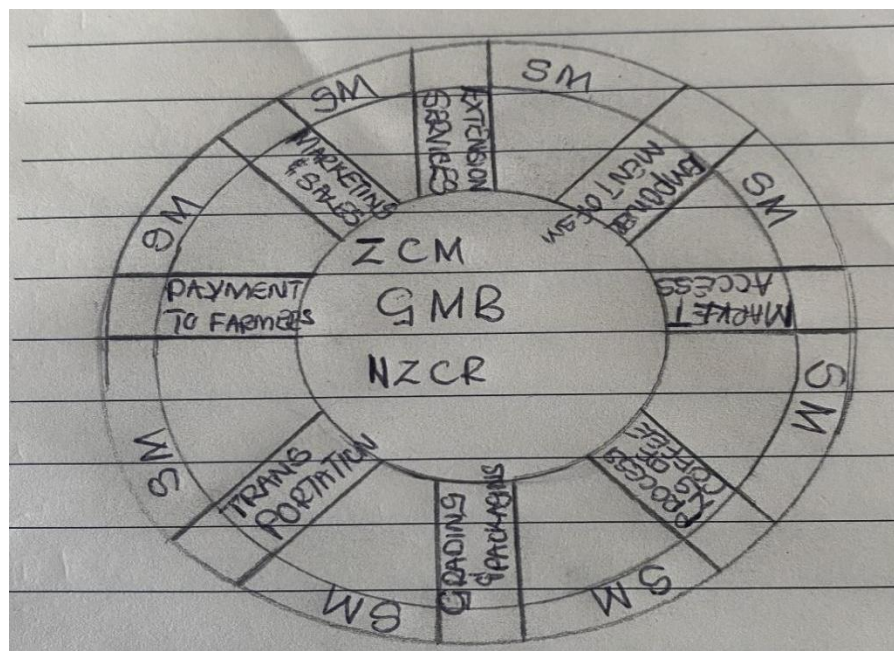


Figure 1: The Hub and Spoke Model for Coffee Marketing in Zimbabwe; own source

While numerous studies have shown that an effective market information system can alter the behaviour of farmers, it is still uncertain whether most smallholder farmers particularly those with less education can gain from utilising such technology. Consequently, many farmers in Zimbabwe lack adequate or any access to market information enabling intermediaries to exploit them by providing prices that are significantly lower than those offered to final consumers. It is thought that local coffee growers lack a structured marketing approach and primarily depend on conditions set by these intermediaries. Hence, it is essential to evaluate the various methods through which coffee farmers and other participants obtain market information, as this can help recognize existing gaps and close them to enhance coffee market engagement.

1.2 Problem Statement

This research is driven by the realization that coffee producers in the Honde Valley and Chipinge regions of Zimbabwe encounter considerable obstacles in effectively selling their coffee, which results in poor economic results and hampers the advancement of the coffee sector. Coffee farmers in Zimbabwe, particularly smallholders are excluded from the complete coffee value chain; they do not engage in crucial aspects such as pricing, decision-making, packaging and processing of coffee. (Midway Bhunu, 2022), notes that coffee yield is currently at a low point of 300kgs of green coffee per hectare, falling far short of the expected commercial target of 2000kgs per hectare.

The Honde Valley is known for having ideal climate conditions for coffee cultivation in Zimbabwe. As of 2019, there were over 300 smallholder coffee growers in the area collectively generating an average of merely 5 metric tons of green coffee. In contrast, neighbouring Chipinge, with over 50 farmers, was able to produce nearly double that amount according to Technoserve (ibid), farmers in Honde Valley when given the appropriate expertise could increase their output to ten times their current production levels. As stated by (Mandirahwe, 2016), there is a shortage of extension services aimed at coffee farming in Honde Valley. The government's approach to delivering extension services is centralized, failing to reach numerous farmers who are in need of training and technical support in coffee cultivation. Farmers have learned coffee farming skills primarily through hands-on experience as labourers on farms or by a trial and error. Additionally, it can be deduced that farmers received inadequate training regarding coffee marketing through a commercialisation perspective. This study aims to identify the most effective coffee marketing platform that will enable farmers to achieve profits and engage fully in the coffee value chain

1.3 Research Questions

1. What are the socio-economic factors that significantly influence coffee marketing decisions among smallholder farmers?
2. How does market access affect the coffee marketing outcomes of smallholder farmers in Zimbabwe?
3. To what extent do institutional factors, such as cooperative membership and extension services, influence coffee marketing decisions among smallholder farmers in Zimbabwe?

1.4 Research Objectives

1.4.1 Main Objective

- ✚ To investigate on the factors affecting coffee marketing in Zimbabwe among smallholder farmers.

1.4.2 Specific Objectives

1. To identify the socio-economic factors influencing coffee marketing among smallholder farmers in Zimbabwe.
2. To assess the influences of market access on coffee marketing among smallholder farmers in Zimbabwe.
3. To investigate the role of institutional factors (for example; ZCM, cooperatives, extension services) in influencing coffee marketing among smallholder farmers in Zimbabwe.

1.5 Hypotheses

Factors such as age, gender, educational level, income, access to market information, road networks, storage facilities, access to extension services and membership in cooperatives such as Zimbabwe Coffee Mill (ZCM) significantly affect coffee marketing among smallholder farmers in Chipinge and Mutasa (Honde Valley) in Zimbabwe.

1.6 Significance of the study/ Justification

This research gains its importance as it is potentially the first study to concentrate on elements influencing smallholder coffee sales in Chipinge and Honde Valley in Zimbabwe. Small-scale coffee growers exist outside the coffee value chain, acting merely as producers without any input regarding price setting as well as coffee packaging and processing. The research adds valuable content to the existing knowledge on the marketing value chains of smallholder coffee, price trends in coffee industry and various determinants impacting coffee marketing. The anticipated outcomes are likely to enhance the coffee selling practices of smallholder farmers, thus aiding in their economic growth. This research also plays a role in developing human capital and increasing profitability. More specifically, it aids in the engagement of small-scale farmers in the entire coffee marketing value chain.

1.6.1 Scope/Delimitation of the Study

- i.) The study focused on the HDC Hub and Spoke Model exercise which was launched in 2024 as a marketing strategy for agricultural produce in Zimbabwe.
- ii.) The study focused on smallholder farmers participating in the Zimbabwe production and marketing of coffee.

- iii.) The study investigated on the Factors Affecting Coffee Marketing in Zimbabwe among Smallholder Farmers in Chipinge and Mutasa (Honde Valley).
- iv.) The evaluated smallholder farmers' perceptions of the effectiveness of the Hub and Spoke Model on Coffee Marketing.
- v.) The study provided actionable recommendations for the future smallholder coffee farmers in Zimbabwe based on the findings.

1.6.2 Limitations of the Study

- i.) Due to limited time and financial resources the geographical coverage of the study was too small however to minimize the effect the researcher used purposive sampling and selected Mutasa district (Honde Valley) and Chipinge which are the most coffee producing zones in Zimbabwe.
- ii.) The high level of illiteracy among the smallholder farmers who participated resulted in some participants not understanding some of the questions clearly however, the researcher had to personally assist with interpretation of terms that the participants would not have understood clearly.
- iii.) The study's reliance on self-reported data from smallholder farmers may introduce social desirability bias and recall bias.
- iv.) The study's quantitative approach did not capture the nuances and complexities of smallholder farmers' experiences and perceptions of the Hub and Spoke Model as used in coffee marketing.

1.7 Organisation of the Report/Thesis

This report consist of 5 chapters. Chapter 1, presents the introduction part laying out the background and context of the study. It provides a brief overview of the smallholder Coffee marketing in Zimbabwe and its significance in the Coffee sector. It also clearly states the problem statement of the study. This chapter also provides research questions and objectives of the study outlining the justification/significance of the study.

Chapter 2 presents the literature review where there is a clear presentation of existing research. This is where previous studies related to smallholder coffee marketing are critically analysed by identifying gaps, inconsistencies and contradictions providing argumentative approaches. This is

also where theoretical frameworks are put through establishing the conceptual model guiding the research, linking these theories to the study's objectives.

Chapter 3 provides the methodology of the study where the research design is described provided the explanation on why this design suits the research. The data collection and data analysis are also part of this section detailing how the data were collected specifying the sample size and sample criteria. The data analysis explains the statistical methods used and ensures transparency for replication.

Chapter 4 presents the results, analyses and provides a discussion of the results. So it provides the demographic data, response rate analysis, and presentation of results where it describes and interpret the information on each objective. This is where results are interpreted for discussion, challenges are identified and opportunities are highlighted for program improvement.

Chapter 5 concludes the research by summarizing the key findings, contributions to knowledge, and practical implications, provides recommendations for future research and provides the conclusion.

CHAPTER 2

LITERATURE REVIEW

2.0 INTRODUCTION

Coffee served as a vital cash crop of Zimbabwe, contributing in excess of 2.5% to the nation's Gross Domestic Product (GDP). Over 95% of the total yearly output was exported to regions like America, Europe, and Asia (Midway Bhunu, 2022). Commercial growers maintained direct connections with the respective markets. They carried out coffee processing on their farmers including both initial and secondary processing stages. The coffee sector provides employment for over 20,000 individuals throughout the value chain. Numerous families in Manicaland heavily rely on coffee for their livelihood (Khutswayo, 2017). This literature review aims to investigate the current studies regarding factors affecting coffee marketing and to pinpoint gaps concentrating on Zimbabwe while making references to broader global and regional contexts.

2.1 Botany of Coffee

The coffee plant is classified under the *Rubiaceae* family and the *Coffea* genus. It resides within a larger group of plants known scientifically as the Angiosperms, or *Angiospermae*, which signifies that this type of plant reproduces via seeds that are enclosed in an enclosure, specifically the ovary located at the base of the flower. While there are over 70 identified coffee plant species that proliferate in tropical areas, only three species from the coffee belt account for the entirety of coffee production globally and hold significant economic value today (Teketay, 1998). Over 98% of the world's coffee is derived from just two of these three species: *Coffea arabica* (Arabica, representing 64% of global production) and *Coffea canephora* (Robusta, accounting for 35% of global production). The third species, *Coffea Liberica*, contributes to less than 2% of worldwide coffee output (Taringana., 2015).

2.1 Origin of Coffee

Coffee cultivated around the globe can trace its lineage back many centuries to the coffee woods found on the Ethiopian plateau (Deribe., 2019). There was some uncertainty regarding the roots of *C. arabica* L. (Arabica coffee). The initial assumption was that, this plant was from Arabia because of the earliest awareness of the drink and the plant came from that region, which is why Linnaeus

assigned it that scientific name (Teketay, 1998). However, most experts now agree that Arabica coffee has its origins in Ethiopia. As noted by (Deribe., 2019), every botanist who have examined the forests in the southwestern highlands of Ethiopia acknowledges that this country is the hub of diversification for *Coffea arabica*. Presently, the commercially significant coffee species, both originating in tropical Africa, are cultivated in about 80 nations across four continents (Africa, America, Asia, and to a lesser degree Australia), with approximately 50 of these countries exporting coffee (Taringana., 2015).

Furthermore, insights about coffee were provided by Smith (1985) and Wrigley (1988), among which the tale most frequently referenced involves a goatherd named Kaldi (Taringana., 2015). As detailed by (Teketay, 1998) Kaldi observed that, after his goats' munched on berries from certain shrubs and began started to leap around energetically, he decided to try them himself and found them invigorating. This led him to share the berries with a monk, who took them to a monastery where they were roasted, brewed and consumed to help keep the monks alert during their protracted night prayers. The abbot then relayed his find to the other monks at the monastery, leading to the spread of knowledge regarding the energizing fruit worldwide (Teketay, 1998). This is reinforced by Claude et al., (2019), who asserts that "all commercial coffee species have origins in Africa and belong to the genus *Coffea*".

Furthermore, one hypothesis proposes that the Ethiopians transported it to Yemen following their conquest of the region in the year 500AD. An alternative theory indicates that it was first introduced to Yemen and the Arabian Peninsula by Arab traders, where it was cultivated aiding in the growth of the port town of Mocca (Deribe., 2019). This provides clarity as to why Arabica coffee is linked to the name *Mocca*, even though its primary center of origin and variation lies in Africa. Additionally, the *C. canephora* types which include Robusta coffee thrive at lower elevations and are well-suited for the humid, warm and equatorial tropics below an altitude of 1000 meters; they are found naturally in the western Congo basin. There is a lesser-known coffee type *Coffee liberica* emerged in West Africa, specifically around Liberia.

2.3 Coffee Industry in Zimbabwe

In Zimbabwe, coffee was introduced for commercial purposes around 1960 in the Chipinge district of Manicaland and has been grown since the 1890s, initially for domestic consumption. From the 1960s, coffee production increased considerably, and colonial Zimbabwe managed to maintain the

production of high-quality Arabica coffee which is generally scarce on the international market (Bates, 1999). In addition, in Zimbabwe, 35,000 tonnes of coffee make up 20% of Zimbabwe's economy and have grown since the 1960s (Palgrave., 2016). The expansion of coffee production continued in the post-1980 period, and coffee developed to be the fifth most important export agricultural commodity in the country (Taringana., 2015). As per the Zimbabwe Coffee Mill (ZCM, 2016), Zimbabwe gained acclaim for its premium Arabica coffee, which stood firm against that from major exporters such as Brazil, Columbia, Uganda, and Kenya (ZCM, 2016). The topic of land reform became a contentious issue in Zimbabwean politics during the late 1980s, following a period of relative quiet lasting almost eight years post-independence (Taringana., 2015).

While coffee cultivation has fluctuated in Zimbabwe since gaining independence, it notably has been on a downward trend since the 1980s. When the country achieved independence in 1980, coffee output was around 6,000 metric tons nearly doubling to approximately 12,000 metric tons in 1985, but then plummeting to 3,500 metric tons in 1986 (Midway Bhunu, 2022). The following year, coffee production witnessed a resurgence peaking at 14,600 metric tons in 1989. After the production decline began in 1991, the coffee industry in Zimbabwe has struggled significantly. The sector has nearly crumbled, with production hitting an unprecedented low of 208 metric tons in 2010. According to Midway Bhunu, many large-scale farmers and small-scale farmers exited the industry, leaving just two major producers (Crake Valley Farm, PLC and Tanganda Tea Estates) managing 300 hectares, alongside 392 smallholder farmers cultivating 79 hectares. For those still engaged in coffee farming, it remains a favoured crop with vast potential. With average prices of US\$6 per kilogram in the 2016/2017 season, coffee stands out as one of the most profitable agricultural products (ZCM, 2016).

From 1991 to 2008, the coffee industry experienced a severe downturn largely due to a drop in coffee yields, which was linked to fluctuations in global coffee pricing, hefty production expenses, the rapid and reform initiative that altered support and production frameworks and a policy environment that primarily favoured cereal crops within the nation.

Between 2009 and 2017, Zimbabwe's government rolled out a multi-currency system, resulting in stabilized inflation rates. Nespresso, through its initiative known as the Nespresso Zimbabwe Coffee Revival program, established a rewarding marketplace offering premium rates for high-quality coffee (Nestle Nespresso. SA, 2017). The Coffee Growers Association played a pivotal

role in founding the Zimbabwe Coffee Mill (ZCM), aimed at improving marketing (M. Bhunu and P. Kwaramba, 2022). Functioning as an all-in-one resource for farmers, the ZCM has become essential. Even though global farm gate prices for coffee experienced a downturn in the early 2000s, prices have since increased with an average of US\$0.78 per kilogram in 2017 surpassing the average costs of maize and horticultural goods. Locally, farm gate prices in Zimbabwe reached as much as US\$6 per kilogram for green coffee during the 2016/2017 season. This reflects the amount Nespresso is willing to pay for superior-quality coffee.

Presently, coffee is traded in its green form rather than roasted. The coffee commodity association along with the Horticulture Development Council supported by the Ministry of Lands, Agriculture, Water and Rural Development, anticipate investments exceeding 2000 metric tons each year leading to an annual revenue of over USD10million. This production effort will involve 1,300 smallholder farmers and 10 medium-scale cultivators leveraging a Hub and Spoke Model. According to (Midway Bhunu, 2022), this model consists of a central farm linked to smaller or medium-sized farmers who collaboratively produce a commodity, allowing for effective aggregation. The hub farm (Zimbabwe Coffee Mill and Nestle Nespresso SA) provides inputs, credit, training, and market access to the outlaying smallholder farmers.

2.4 Coffee Industry in Africa

In Africa, the primary nations engaged in coffee production include; Ethiopia, Uganda, Cote d'Ivoire, Madagascar, Tanzania, and Kenya. Over the last ten years, Kenya's coffee output has remained below the milestone of one million (60kg). Ethiopia and Uganda have emerged as the leading contributors to coffee output in Africa since 2010, whereas Kenya's production levels have plateaued (ICO, 2022). Other relatively minor coffee-producing countries in Africa consist of Ghana and Equatorial Guinea. The continent's share of the global coffee output stood at approximately 11.3% in 2022 down from peaks of 16% in previous years. Coffee trade within the African region has been quite minimal, with nations like Egypt and Tunisia relying on imports from Europe and various Asian countries including Indonesia.

2.5 Global Coffee Industry

Historically, during the colonial era, Zimbabwe gained a reputation for its superior Arabica coffee, which was highly sought after in international market. In general, the International Coffee

Organisation (ICO) oversees the marketing of coffee through the ICA quota framework. The primary aim of the ICA was to maintain price stability for the advantage of both coffee-producing and consuming nations (Taringana., 2015). The ICO quota markets were primarily utilized to sell surplus coffee, much of which was of inferior quality. Typically, the majority of Zimbabwean coffee was absorbed by European quota markets, followed by the United States (USA) and Japan. South Africa and countries in the Middle East took in the surplus coffee that could not be sold through the quota markets (Grain Marketing Board (GMB) (Taringana., 2015). Figure 2 illustrates Zimbabwe's overall share in the Global market from 1980 to 2015.

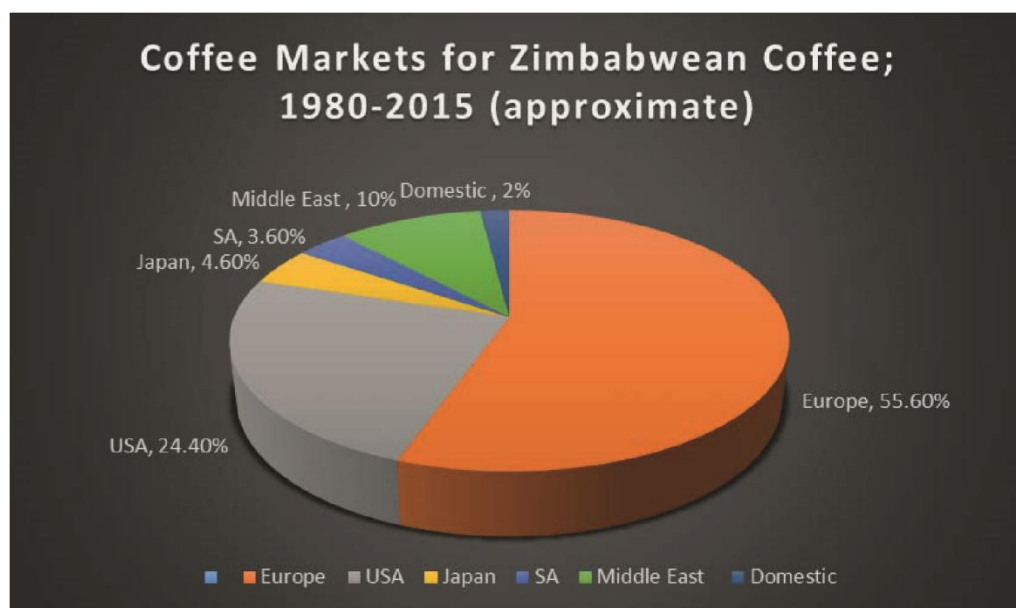


Figure 2: Zimbabwe International Coffee Market 1980-2015; the Global Coffee Paradox and Coffee Marketing 2017

2.6 Importance of Coffee

Coffee cultivated across the globe ranks as one of the most significant agricultural products on the international market, spanning roughly 10.3 million hectares and serving as the primary source of income for over 25 million households (Brief., 2010). More than 60 countries engage in its production and export with coffee being a leading cash crop in many developing nations. In certain African nations such as Zimbabwe, coffee constitutes the main source of export revenues and typically represents over 30 percent of overall export income, making it a crucial element for GDP

and tax revenue in several African nations (Chemura A., 2016). Moreover, coffee plantations promote the protection and preservation of forest biodiversity that helps prevent soil erosion, forest fires and diminish podu cultivation. They also facilitates improved living conditions for humans and provide safe environments for various wildlife. Numerous families in Manicaland rely on coffee for their means of subsistence (Khutswayo, 2017).

2.7 The Coffee Market Value Chain

The key participants in the coffee value chain include suppliers of fertilizers, agrochemicals, and equipment; large coffee estates and smallholder farmers (with the average smallholder holding being under a quarter hectare); processing and purchasing entities such as ZCM and GMB, as well as local roasting businesses; and local retailers, importing agents and importers (Midway Bhunu, 2022). Farmers can sell directly to ZCM, GMB, or importers like Nespresso. Initial processing steps (i.e., pulping and washing) take place on the farms. The stakeholders depicted in Figure 3 experience varying impacts from the internal and external changes that take place within the sub-sector. Government policies serve as the primary forces influencing this sector, possessing the power to either devastate or invigorate the coffee industry.

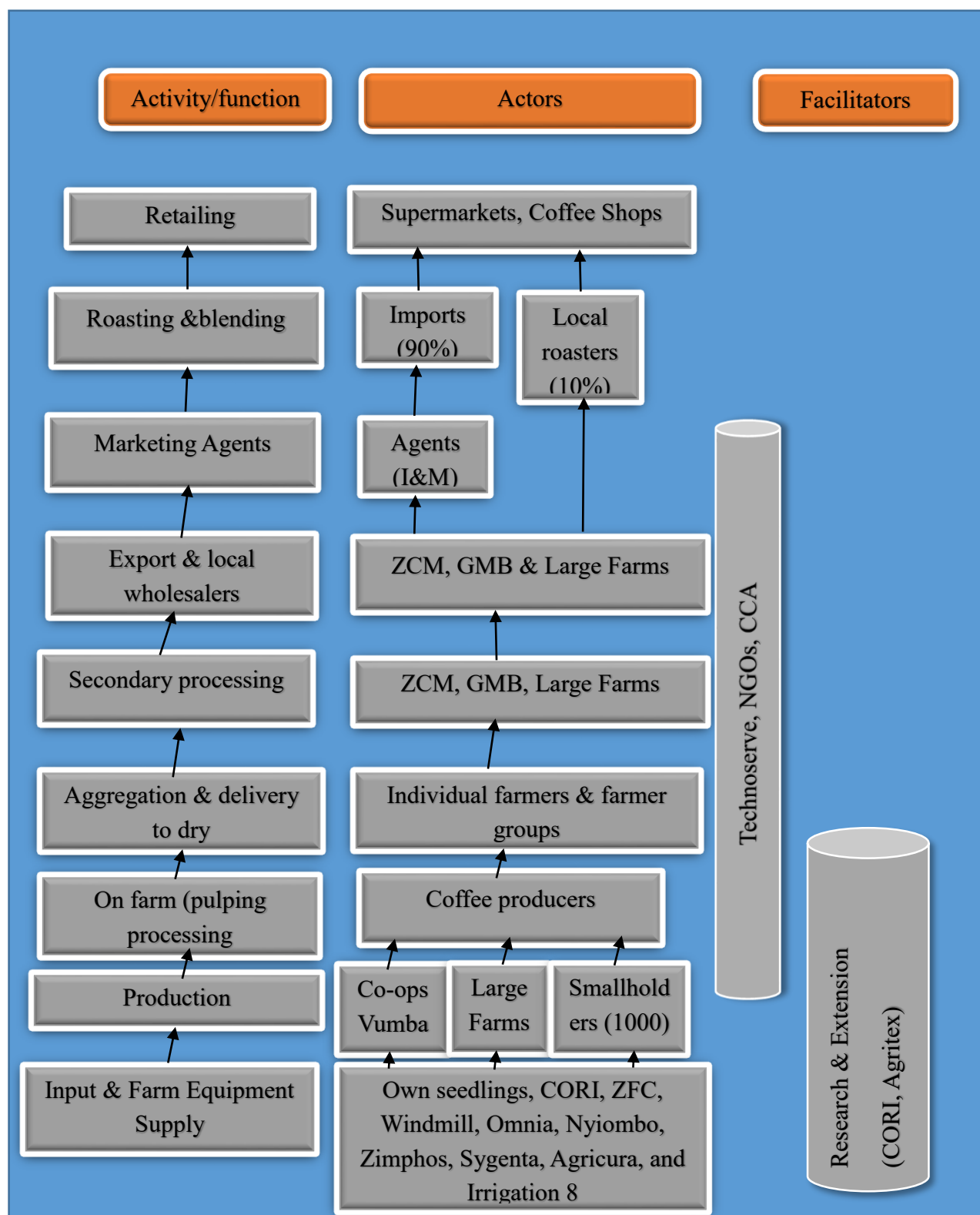


Figure 3: Zimbabwe Coffee Formal Market Value Chain. The Evolution of the Zimbabwe Coffee sector: A Critical Analysis, (M. Bhunu & P. Kwaramba, 2022)

2.8 Factors Affecting Coffee Marketing in Zimbabwe

Although coffee (*coffee sp*) marketing occupies an important position in the economy of Zimbabwe and has many benefits, most smallholder farmers are still not excited because only one way of marketing is used (Hub and Spoke Model). The quality of coffee is primarily influenced by two key aspects: the natural characteristics of the matured beans that emerge from their environment and genetic makeup, and the handling of the beans from the point of harvest to their sale on the market (Taringana., 2015). Coffee producers' inability to manage the most profitable areas of the coffee value chain, especially regarding the incorporation of non-material value, led to the inadequate capacity of coffee production to generate sustainable income for those producing it (Taringana., 2015).

The socio-economic elements had an impact on the marketing of coffee in Zimbabwe. The Fast Track Land Reform Program (FTLRP) created barriers that hindered access to the EU market, which was a key buyer of Zimbabwean coffee (Taringana T. , 2018). This program caused a diplomatic incident between Zimbabwe and the EU, ultimately resulting in the imposition of economic sanctions against Zimbabwe (Food Agriculture Organisation (FAO) 2003, 18). These economic sanctions had a detrimental effect on the demand schedule, significantly harming the country's access to export markets (Taringana., 2015). In fact, the chaotic implementation of the land reform program led to a drastic drop in coffee production leaving very little coffee available for markets. The FAO stated, "Due to the land reform program and the ensuing decline in both coffee production and quality international buyers stated to avoid Zimbabwean coffee, which led to the closure of Mutare Coffee Mill in 2010" (Taringana., 2015).

The structure of coffee market power has been and continues to be limited to select few stakeholders at the conclusion of the value chain. A significant portion of the value generated through economic friction within the value chain has remained in foreign consuming nations, which can access the most lucrative phases of value enhancement (Food and Agriculture Organisation (FAO) 2004, 7).

Market access influences the marketing results for smallholder coffee farmers in Zimbabwe. Taringana indicates that ZCM, the coffee hub encountered significant challenges due to cash flow issues stemming from low production and delivering levels, which hindered the company's ability to raise the processing price in response to decreased coffee supply. This situation arose because

of being owned by coffee producers meant the company served as their representative (Taringana., 2015).

In particular, just three companies dominated close to fifty percent of global coffee roasting (Taringana., 2015). These large multinational entities held significant sway over international coffee networks, exercising control by participating in flawed markets and managing the conditions of production and trade (Pelupessy, 2008). Consequently, the governance framework that oversaw this sector leaned heavily in favour of these corporations. Therefore, Zimbabwe's attempts to engage with more profitable segments of the value chains were hindered as commodity chains diminished the negotiating power of scattered agricultural producers (Taringana., 2015).

2.9 Conceptual Framework

The present study focuses on investigating the factors affecting coffee marketing in Zimbabwe among smallholder farmers. As indicated in Figure 5, coffee marketing is influenced by different socioeconomic factors, market access, and institutional factors. These factors include age, gender, educational level, farm size, income, road networks, storage facilities, market information, membership in cooperatives, and access to extension services.

Disparities in gender influence participation in marketing. Households led by women frequently confront more obstacles in marketing their products. As reported by Ndlovu et al. (2021), female coffee farmers in Zimbabwe often receive prices 15-20% lower due to restricted mobility and lesser negotiation skills in predominantly male coffee markets.

A higher level of education boosts marketing efficiency. Research by Mashavira et al. (2022) indicated that Zimbabwean coffee farmers with secondary education are 2.3 times more inclined to implement better marketing methods compared to those with only primary education.

Income impacts the ability to invest in high-quality production. Farmers with limited income often need to sell their products urgently at reduced prices. (Mujeyi, 2021), noted that 68% of smallholder coffee farmers in Zimbabwe sell to local markets at prices below the market rate due to urgent cash requirements.

The size of a farm influences marketing economies of scale. Larger farms are better positioned to absorb costs associated with certification and transportation. Research conducted by Nyikahadzoi

et al. (2020) indicated that coffee farms in Zimbabwe smaller than 2 hectares struggle to attain profitable marketing scales, receiving 40% less per kilogram than their larger counterparts.

Being nearer to markets decreases transaction costs. Farmers situated farther than 15 kilometers from markets incur significantly higher expenses. Findings from Zivenge et al. (2021) revealed that for each additional kilometer from the market, net income from coffee for smallholders in Zimbabwe diminishes by 2.3%.

Participating in cooperatives enhances bargaining strength. According to Mupamba et al. (2022), cooperative members in Zimbabwe benefit from 25-35% higher prices for their coffee compared to independent farmers due to larger volume sales and lower exploitation from intermediaries.

This examination highlights how various interconnected factors create both barriers and opportunities within the coffee marketing system in Zimbabwe, particularly affecting the smallholder farmers who dominate production. Policy measures should tackle these complex challenges in a comprehensive manner.

The presence of supportive institutional frameworks plays a crucial role in market engagement. Evidence from Mutyasira et al. (2018) illustrates that ineffective extension services and fluctuating agricultural policies in Zimbabwe have caused a 30% decline in productivity among smallholder coffee growers since 2000. Strong institutions are essential for ensuring quality oversight, dissemination of market information, and facilitating access to necessary inputs (Matshe, 2020).

Insufficient storage capabilities cause degradation in quality and result in lower prices. Mutambara et al. (2020) indicated that Zimbabwean producers lose 25-40% of the value of their coffee due to inadequate storage environments. Proper storage is vital, as coffee demands specific levels of humidity and temperature control to maintain its quality grade (Mupfasoni et al., 2021).

The effectiveness of coffee marketing is deeply affected by transport infrastructure. Poor road conditions escalate transport expenses and contribute to losses after harvest. According to Mujeyi et al. (2019), the declining state of rural roads in Zimbabwe raises marketing costs for agricultural products by 15-30%. This poses particular challenges for coffee that necessitates prompt transport to uphold its quality.

The ability of small-scale coffee producers to profit from their sales is heavily impacted by market accessibility. As noted by (Mutenje M. O., 2017), a critical restriction for smallholder farmers in Africa is their limited access to markets, compelling many to rely on informal sales channels where prices are lower. Zimbabwean coffee cultivators encounter distinct hurdles in penetrating international specialty coffee markets due to demands for certification and adherence to quality standards (Tambudzai & Mago, 2020).

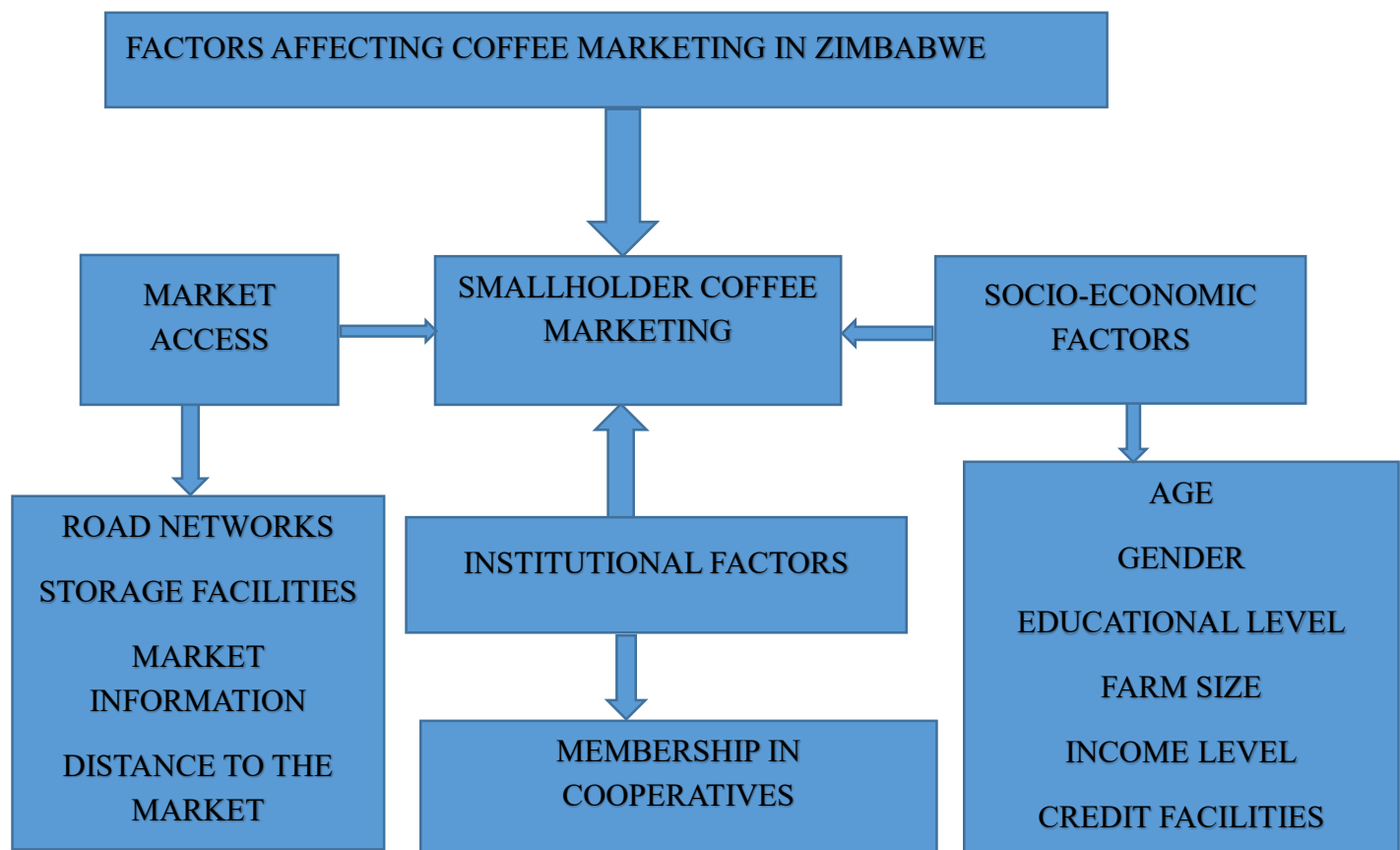


Figure 4: Conceptual Framework of the Study. Own Source

CHAPTER 3

RESEARCH METHODOLOGY

3.0 INTRODUCTION

The present chapter delineates the approach utilized for this examination. It highlights the techniques for acquiring information and data to tackle the research queries. This chapter further elucidates and rationalizes the research framework, strategies for gathering data, methods of data analysis and the ethical issues that govern the research. Moreover, it specifies the research paradigm that supports the enquiry and maintaining of the philosophical consistency across the entire investigation process.

3.1 Site description

The primary region for coffee cultivation in Zimbabwe is situated within the Eastern Highlands districts, which include Chipinge, Chimanimani, Mutare, and Mutasa all located in the Manicaland Province (Fig. 5). These areas predominantly fall under agro-ecological zone I. Known for its exceptional agricultural potential, this zone yields specialized crops that hold significant economic importance. In terms of both the number of coffee growers and the land utilized for coffee farming, these districts are recognized as the principal coffee production area in Zimbabwe. The Eastern Highlands are responsible for an impressive, 90% of the nation's total coffee yield. The four districts have historical significance as the traditional coffee-growing regions of the country. Across all coffee- producing areas, the most prevalent system for marketing is the Hub and Spoke Model, which has been explored in the prior chapter where the hub serves as the center for aggregation (such as ZCM) for distributing inputs and marketing.

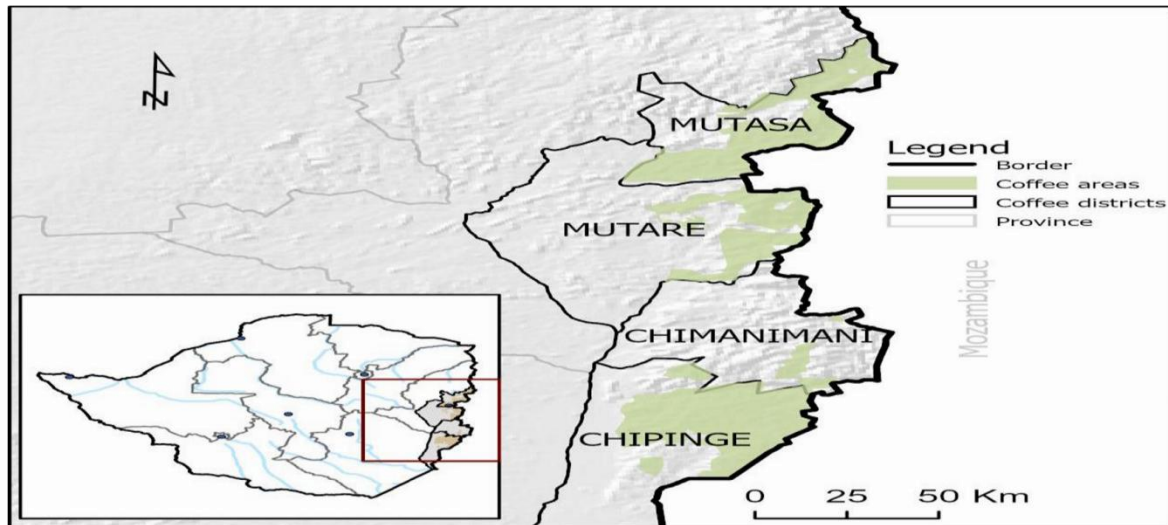


Figure 5: Map showing the Main Coffee Plantation Districts of the Study area in Zimbabwe; Cosmas Gumbo 2022

3.2 Research Design

The study was influenced by pragmatist philosophy. This approach allows for utilization of various techniques to identify elements that impact coffee marketing for smallholder farmers in Zimbabwe. A Qualitative framework was adopted to investigate the elements that affect the marketing of coffee by smallholders. Qualitative research enables the integration of multiple strategies to create a comprehensive understanding. In particular, qualitative techniques allowed for the execution of surveys, focus group discussions and detailed interviews. The researcher played a central role in gathering data. The context provided insights and my familiarity with the participants, significantly enriched data analysis and interpretation. Quantitative techniques were essential for conducting interviews, executing surveys, presenting data and ensuring precision.

The research implemented a stratified random sampling technique to choose a representative group of farmers from various districts involved. The stratified random sampling method ensures that the sample represents the larger population. The data collection methods used were semi-structured interviews which allow open-ended responses, participant observations through watching and noting how participants behave, document analysis and questionnaires. The data analysis methods involved thematic analysis to identify patterns in qualitative data, descriptive statistics to summarize quantitative data and inferential statistics to make predictions/inferences about the data.

3.3 Sampling

Sampling from regions that currently produce coffee was gathered via a survey aimed at identifying the Hub and Spoke Model in agricultural marketing as part of the Horticultural Development Council project. Specifically, the dataset was generated through a structured household questionnaire covering four districts: Chimanimani, Chipinge, Mutare and Mutasa (Honde Valley). The focus of the research was on smallholder farmers located in the Chipinge and Mutasa districts, particularly in the Honde Valley area. A total of 200 smallholder coffee growers were surveyed, with 100 from Chipinge and another 100 from Honde Valley. To determine the appropriate sample size, I applied the Yamane sample size calculation method, which is expressed as follows;

$$n = N \div [1 + N(e)^2]$$

Where:

n represents the derived sample size

N; indicates the total population size, and

e signifies the precision level, set at 5%

Sample size (n): $400 \div [1 + 400(0.05)^2] = 200$ Smallholder coffee farmers.

3.4 Sources of data

This research utilized primary data. The dataset for this study was collected through distributed household survey questionnaires, interviews and focus group discussions (FDGs). It comprises comprehensive details about the smallholder farmers, including their age, gender, access to markets and marketing information, availability of coffee associations and access to credit. This initiative facilitates the reengineering and execution of the Hub and Spoke model of the Horticultural Development Council, which forms an integral component of the broader coffee plantation project in Zimbabwe. After I completed the data cleaning phase, the Statistical Package for Social Scientists (SPSS) was employed to organize the information and analyse data.

3.5 Data Collection Methods

A systematic household survey was employed to gather numerical data. The survey was distributed to a sample of 200 households. This survey gathered diverse insights that are essential for exploring

the elements influencing coffee sales among small-scale farmers. The gathered data encompassed socio-economic aspects; (including age, gender, income and education attained), market access (in terms of road networks, storage facilities, access to market information) and institutional factors (such as ZCM, cooperatives and extension services). The questionnaire contained several questions regarding factors affecting coffee marketing among smallholder coffee farmers in Zimbabwe. The survey used a cellular phone for the validity of the research method. On using this machine, a software application i.e. Kobo-Collect was installed and structured questionnaire was uploaded. Formal and informal interviews were conducted to gather information that could not be obtained through observations and discussions in FDGs. The responses from these interviews aided the researcher in clarifying concerns mentioned by smallholder coffee farmers. It was essential for the researcher to cross-reference the interview data with the information derived from the FDGs. With the approval of the participants, the researcher utilized a voice recorder to document some of the answers, in accordance with Sekeran's recommendations from 2013. The recorded audio was subsequently replayed to the participants to eliminate any doubts or mistrust and more importantly to ensure the accuracy of the data captured. The primary questions posed during interviews were under the following topics:

- A. Socio-Economic Factors.
- B. Market Access.
- C. Institutional Factors.
- D. Open- Ended Questions.

Table 1: Data Collection Methods and Tools. Own source

Research Objectives	Data Concepts and variables/indicators	Data Collection methods/tools	Respondents/Subjects
To identify the socio-economic factors influencing coffee marketing among	Conducted structured interviews with smallholder farmers to collect data on	Structured questionnaires	Smallholder farmers

smallholder farmers in Zimbabwe.	socio-economic factors (age, gender, education, income, and farm size). Organized discussions with groups of farmers to gather qualitative insights into socio-economic challenges and opportunities in coffee marketing.	Focus Group Discussions Guides (FDGs Guides)	
To assess how market access influences coffee marketing among smallholder farmers	Collected data on market access indicators (for instance, distance to markets, transportation availability, market information sources) Discussed with farmers their experiences and challenges related to market access.	Structured Questionnaires Interviews Focus Group Discussions Guides(FDGs Guides)	Smallholder farmers

To investigate the role of institutional factors (for example, ZCM, cooperatives, extension services) in influencing coffee marketing among smallholder farmers in Zimbabwe.	Collected data on Farmers' interactions with institutions such as ZCM, cooperatives, and extension services to understand their roles and challenges. Discussed with farmers their perceptions of institutional support and its impact on coffee marketing	Structured Questionnaires interviews Focus Group Discussion Guides(FDGs Guides)	Smallholder farmers
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3.6 Data Entry and Analysis Methods

Data entry and sanitation were performed utilizing a statistical software tool specifically designed for social sciences, namely SPSS version 22.0, to facilitate analysis. A binary logistic regression model was employed to assess the influence of market access through marketing channels on smallholder coffee growers in the coffee farms of Zimbabwe. Additional significant qualitative and quantitative analytical methods were implemented to fulfill the other objectives.

Table 2: Data Entry and Analysis Methods and Tools. Own source

Research Objectives	Data Concepts	Data Variables/Indicators	Data Analysis tools

To identify socio-economic factors influencing coffee marketing among smallholder farmers in Zimbabwe.	Descriptive Statistics	Identified the relationship between socio-economic factors.	Statistical Software SPSS
To assess how market access influences coffee marketing among smallholder farmers in Zimbabwe.	Multinomial Regression Analysis	Summarized market access indicators (for instance, distance to markets, transportation availability, market information sources)	Statistical Software: Excel and SPSS
To investigate the role of institutional factors (for example, ZCM, cooperatives, and extension services) in influencing coffee marketing among smallholder farmers in Zimbabwe.	Binary Regression Analysis	Understood the perceptions and experiences of farmers with institutional support (for instance, through thematic analysis of interviews and focus group discussions).	Statistical Software: Excel and SPSS

3.6.1 IDENTIFICATION OF THE SOCIO-ECONOMIC FACTORS INFLUENCING COFFEE MARKETING AMONG SMALLHOLDER FARMERS IN ZIMBABWE.

Descriptive statistics were used to identify the key socio-economic factors affecting smallholder coffee marketing and evaluate the effect of perceptions on program effectiveness, the study utilised descriptive statistics to determine the influence of socio-economic factors on coffee marketing among smallholder farmers in Zimbabwe. The socio-economic factors used are age, gender,

educational level, income level, farm size, number of farm permanent worker, number of seasonal farm workers, access to credit, number of coffee tree and number of years of experience growing coffee.

3.6.2 ASSESSMENT ON THE INFLUENCE OF MARKET ACCESS ON COFFEE MARKETING AMONG SMALLHOLDER COFFEE FARMERS IN ZIMBABWE.

Coffee smallholder farmers use two marketing channels which are collective marketing or group marketing and individual marketing strategy. Collective marketing is mainly linked with international markets such as Nesspresso and Technoserve while individual marketing is connected to local markets such as ZCM, GMB, and farm gates. The decision to participate in international marketing channels or to participate in local marketing channels signify the individual's direction to maximize profits and utility. The satisfaction smallholder coffee farmers will get after either selling their coffee collectively or individually subject to several factors which influence market access and so a multinomial logistic regression model will be used. The assumption for the Multinomial regression model is that choice is a discrete event, and this means that choice is all-or-nothing. One either choose to sell collectively or individually. The decision-making process takes place in two stages where the farmer decide to sell collectively or individually. Collective selling is linked to international markets whereby farmers receive their funds after a long period of time (reduced time value of money) while individual selling is characterized by local marketing channels thus selling to GMB, ZCM and on farm gates, but receiving less funds in a short period of time (increased time value of money).

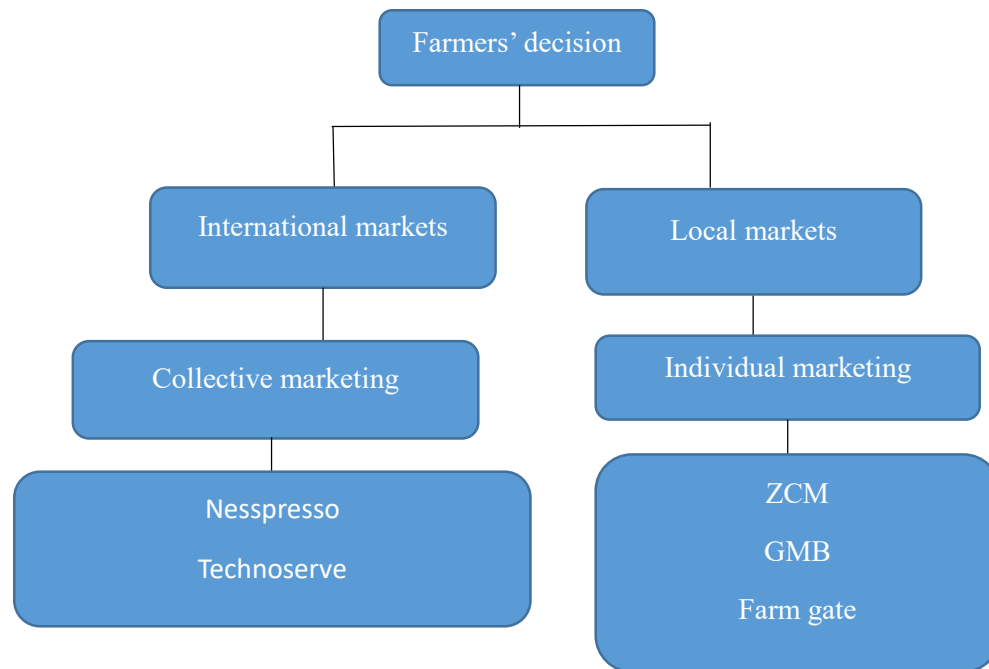


Figure 6: Process of decision making in coffee marketing; own source

3.6.2.1 Econometric Model Specification

In the context of this research, specifying the regression model involves selecting variables that are theoretically and empirically relevant to the research objectives and questions. By employing econometric models, we conduct Multinomial regression analysis to assess the influence of market access on coffee marketing among smallholder farmers in Zimbabwe. The dependent variable is market access, and the independent variables are distance to the market, road quality, storage facilities, and market information.

The multinomial logistic regression model (market access) is specified as follows:

$$\text{Log} \left[\frac{\text{Collectively}_j}{\text{Individually}_{\text{base}}} \right] = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 \dots + \beta_n x_n + \varepsilon \quad (1)$$

Market access = β_0 + age + gender + farm size + level of education + distance to the market + road quality + storage facilities + market information + membership in coffee association

Where;

X1 =age

X2 =gender

X3 =farm size

X4 =level of education

X5 =distance to the market

X6 =road quality

X7 =storage facilities

X8 =market information

X9 =membership in coffee association

Market access (Collective marketing or individual marketing) =dependent variable

β_0 , is the constant;

$\beta_1; \beta_2; \beta_3; \beta_n$, are the coefficients for each independent variable, and;

$\mathcal{E}$, is the stochastic/error term.

3.6.3 INVESTIGATION ON THE ROLE OF INSTITUTIONAL FACTORS (FOR EXAMPLE; ZCM, COOPERATIVES, EXTENSION SERVICES, CREDIT FACILITIES) IN INFLUENCING COFFEE MARKETING AMONG SMALLHOLDER FARMERS IN ZIMBABWE.

3.6.3.1 Econometric model specification

Binary regression analysis was used to investigate the role of institutional factors influencing coffee marketing among smallholder farmers in Zimbabwe. The dependent variable is “sell coffee” against the independent variables which are ZCM, cooperatives, extension services and credit facilities. Different districts within Manicaland Province may have varying prevalence factors that could influence coffee marketing.

The binary logistics regression model (institutional factors) is specified as follows:

$$\text{Log} \left[\frac{P(\text{Sells Coffee})}{1-P(\text{Sells Coffee})} \right] = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \dots + \beta_n x_n + \varepsilon \quad (2)$$

Sells Coffee = β_0 + Knowledge about Nesspresso + Training received + Membership in coffee associations + Contract farming + Search market information + Aware of the races for each coffee grades

Where,

X1 = Knowledge about Nesspresso

X2 = Training received

X3 = Membership in coffee associations

X4 = Contract farming

X5 = Searching market information

X6 = Aware on the races for each coffee grade

Sells coffee = dependent variable

β_0 , is the constant;

$\beta_1; \beta_2; \beta_3; \beta_n$, are the coefficients for each independent variable, and;

ε , is the stochastic/error term.

3.7 Ethical Consideration

According to James Cook University (2023), ethical considerations are very critical and paramount in any research, especially when it involves human participants, as in this case, the inclusion of smallholder farmers in investigating factors affecting coffee marketing.

Upon this investigation, the first step is to ensure informed consent. This ensures that all participants are fully aware of the nature of the research, what it entails, their role in it and any potential risks or benefits associated with their participation. They must voluntarily agree to participate without force, for instance in this research, the questionnaire was structured with a first

question asking for the farmer's consent to be interviewed after being explained what the interview is entitled to do and what will their benefits be.

Confidentiality is another critical aspect. The information collected from participants must be kept confidential and used solely for the research. Following the research principles according to the (National Institutes of Health (NIH), 2016), identifiable information should be anonymized or in pseudonym form to protect the privacy of the participants. When using tools like questionnaires or conducting interviews and focus group discussions, it's essential to ensure that the data is securely stored and only accessible to the research team members for analysis.

Furthermore, the research should aim to have a beneficial impact. This means that it should contribute positively to the welfare of the participants and the broader community. This involves not only looking at the potential benefits but also minimizing any harm to participants. The research design should be reviewed by an ethical review board to ensure that it meets ethical standards and that any potential risks are adequately addressed.

The research should also be conducted with cultural sensitivity, respecting the customs and norms of the community where the study is taking place. Upon considering cultural sensitivity, doing focus group discussions with smallholder farmers might be a very challenging strategy nowadays farmers when asked to gather at one position, they would think that they are about to receive tangible products from donors such as inputs, so it becomes very hard to convince them to attend such gatherings.

Lastly, when reporting the findings, it's important to do so with integrity, presenting the data honestly and without bias and acknowledging any limitations of the study. This transparency contributes to the ethical dissemination of the research findings.

3.8 Summary

This chapter present a comprehensive research methodology designed to explore the factors influencing coffee marketing among smallholder farmers in Zimbabwe. Employing a mixed-methods approach, the chapter outlines the use of structured questionnaires, in-depth interviews and focus group discussions to collect data from a stratified random sample of farms. Analytical framework (logic model), model specification (variable definitions were expressed), data sources

and estimation issues were explored in this chapter. Upon the analytical frameworks, the chapter details the procedures for assessing the factors influencing smallholder coffee marketing, ensuring that each step is ethically conducted with respect to participant confidentiality and informed consent. Also, data collection techniques were enlightened in the chapter of the research. This methodology sets the stage for rigorous analysis, aiming to provide valuable insights into the effectiveness of the smallholder coffee marketing and its acceptance among the coffee farming communities. Finally, the data validation, presentation and analysis plan were well described in this chapter and the next chapter executes the data analysis plan for the data presentation, interpretation and discussion.

CHAPTER 4

RESULTS AND DISCUSSIONS

4.0 INTRODUCTION

This chapter presents the empirical results of the research in accordance with the research methodology. This chapter elaborates on the final data authentication and describes the presentation and analytical facts. The first part of the quantitative analysis examines the descriptive statistics regarding the socio-economic factors influencing coffee marketing among smallholder farmers within households that participate in Zimbabwe's coffee production. The second part of the results section discusses the identification of key factors influencing smallholder farmers' coffee market access within Zimbabwe's agricultural context, using a multinomial regression analysis. The final part of the results explores the evaluation of cooperatives involved in coffee marketing among smallholder farmers in Zimbabwe, utilizing a binary regression analysis. This simultaneously clarifies and compares how farmers perceive coffee marketing in terms of efficacy.

4.1 IDENTIFICATION OF THE SOCIO-ECONOMIC FACTORS INFLUENCING COFFEE MARKETING AMONG SMALLHOLDER FARMERS IN ZIMBABWE.

The researcher aimed to identify the socio-economic factors influencing coffee marketing among smallholder farmers in Zimbabwe. To explore these factors, the researcher uses descriptive statistics on the total farm size, number of coffee trees, number of permanent workers, number of seasonal farm workers, Years of experience in growing coffee, age, gender, educational level, income level and access to credit facilities.

Table 3: Total Farm Size in Hectares; survey 2025

Total_Farm_Size_in_Hectares					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 to 2	63	31.5	31.5	31.5
	10 and Above	2	1.0	1.0	32.5

2 to 3	27	13.5	13.5	46.0
3 to 4	12	6.0	6.0	52.0
4 to 5	19	9.5	9.5	61.5
5 to 10	2	1.0	1.0	62.5
Below 1	75	37.5	37.5	100.0
Total	200	100.0	100.0	

The data reveals that a significant proportion of smallholder coffee farmers in Zimbabwe operate on very limited land, with 37.5% cultivating plots smaller than one hectare and 31.5% working on 1-2 hectares. This means that nearly 70% of these farmers manage coffee production on less than two hectares, underscoring the prevalence of land fragmentation in rural Zimbabwe. Such limited landholding restricts production potential, reduces marketable surplus, and can hinder meaningful participation in formal coffee marketing systems. Recent studies confirm that land size is a key determinant of market engagement; for instance, (Ncube, 2022) found that in Southern Africa, smaller plots often lead to subsistence-focused farming, leaving little produce for structured markets. Moreover, Chiputwa and Qaim (2017) argued that farm size influences not only output but also access to inputs, technology adoption, and bargaining power in value chains. With only 1% of the surveyed farmers owning more than 10 hectares, economies of scale are largely absent, weakening individual farmers' leverage in pricing and processing arrangements. These findings suggest that unless land use is optimized through cooperative farming models or intensified cultivation practices, smallholder participation in profitable coffee markets will remain constrained.

Table 4: Number of Coffee Trees; survey 2025

Number of Coffee Trees				
	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	1001 to 5000	48	24.0	24.0	24.0
	101 to 500	78	39.0	39.0	63.0
	5001 and Above	2	1.0	1.0	64.0
	501 to 1000	39	19.5	19.5	83.5
	Below 100	33	16.5	16.5	100.0
	Total	200	100.0	100.0	

The data shows that a majority of smallholder coffee farmers in the study cultivate relatively few coffee trees, with 39% managing between 101 and 500 trees, and 16.5% cultivating fewer than 100 trees. This suggests that over half of the respondents are operating at a low scale of production, likely limiting their ability to generate surplus for consistent market participation. Only 24% reported having between 1001 and 5000 trees, while a mere 1% manage over 5000 trees, indicating that large-scale production is exceedingly rare among this group. The number of coffee trees directly correlates with potential yield and market output, meaning that farmers with fewer trees are less likely to benefit from economies of scale, efficient aggregation, or favourable pricing. This pattern aligns with (Tavener, 2020), who observed that small tree holdings often lead to irregular market entry, minimal bargaining power, and dependency on middlemen. Similarly, (Musona, 2021) emphasized that farmers with fewer trees frequently lack access to structured value chains and tend to sell in informal or farm-gate markets where prices are lower. These findings reinforce the idea that enhancing productivity through replanting programs, improved agronomy, and cooperative production models could significantly boost the viability of smallholder coffee farming in Zimbabwe.

Table 5: Number of Permanent Farm Workers; survey 2025

Number of permanent Farm workers				
	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	0	73	36.5	36.5	36.5
	1	29	14.5	14.5	51.0
	15	1	.5	.5	51.5
	19	1	.5	.5	52.0
	2	42	21.0	21.0	73.0
	3	24	12.0	12.0	85.0
	4	12	6.0	6.0	91.0
	5	9	4.5	4.5	95.5
	6	6	3.0	3.0	98.5
	7	2	1.0	1.0	99.5
	8	1	.5	.5	100.0
	Total	200	100.0	100.0	

The data reveals a significant reliance on family labour or minimal staffing, with 36.5% of respondents reporting zero permanent workers and 14.5% employing only one. Combined, this indicates that over half of the farmers (51%) operate with either no hired labour or only a single worker, which reflects the resource-constrained nature of smallholder operations. Only a small fraction, fewer than 10% have five or more permanent workers, with isolated cases reporting as many as 15 or 19, suggesting a high degree of variability but rare scale. This labour profile is indicative of subsistence or semi-commercial farming, where limited financial capital constrains the ability to hire help, thereby affecting the intensity and consistency of farm operations. According to (Sibanda, 2019), labour availability is a critical determinant of productivity and market readiness in smallholder farming; farms with inadequate permanent labour often suffer from poor crop management and inconsistent harvest quality. Additionally, Mwaura et al. (2020) emphasize that labour shortages among smallholders in Eastern and Southern Africa often result in delayed harvesting and reduced post-harvest handling efficiency, which can severely affect the

marketability of crops like coffee that require timely processing. The low prevalence of hired labour further reflects structural limitations in the coffee sector and suggests a need for cooperative labour-sharing models or targeted support in labour-intensive stages such as harvesting and drying.

Table 6: Number of Seasonal Farm Workers; survey 2025

Number of seasonal farm workers					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	81	40.5	40.5	40.5
	1	10	5.0	5.0	45.5
	10	5	2.5	2.5	48.0
	11	1	.5	.5	48.5
	15	1	.5	.5	49.0
	2	43	21.5	21.5	70.5
	20	1	.5	.5	71.0
	3	31	15.5	15.5	86.5
	4	8	4.0	4.0	90.5
	5	11	5.5	5.5	96.0
	6	6	3.0	3.0	99.0
	8	2	1.0	1.0	100.0
	Total	200	100.0	100.0	

The data indicates that a significant proportion of smallholder coffee farmers in Zimbabwe operate without seasonal labour support, with 40.5% employing no seasonal farm workers at all. Additionally, 21.5% reported hiring only two seasonal workers, and 15.5% engaged three,

suggesting that the majority rely on minimal external labour during peak periods such as harvesting. Only a small subset of respondents, less than 10% hire more than five seasonal workers, reflecting limited financial capacity to outsource labour-intensive tasks. This labour gap may lead to inefficiencies in crop handling, especially in coffee production where timing and consistency are crucial for maintaining quality. According to (Nyanga, 2019), limited use of seasonal labour among smallholders often results in delayed harvesting and suboptimal post-harvest practices, which reduce both yield quality and market competitiveness. (Mutenje M. M., 2021), emphasize that the seasonal nature of agricultural work in Zimbabwe requires flexible but sufficient labour input to align with fluctuating workload demands something many smallholders cannot afford. The findings highlight structural barriers in coffee value chains, where labour-intensive processes are constrained by affordability, resulting in compromised productivity and weaker integration into formal markets. To improve outcomes, targeted interventions such as community labour-sharing arrangements or public works-based support during peak seasons could ease the burden on low-resource farmers and enhance market readiness.

Table 7: How many years of Experience Growing Coffee do you have; survey 2025

How many years of Experience growing coffee do you have					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	11 to 20	28	14.0	14.0	14.0
	21 and Above	11	5.5	5.5	19.5
	6 to 10	33	16.5	16.5	36.0
	Below 5	128	64.0	64.0	100.0
	Total	200	100.0	100.0	

The data shows that a substantial majority, 64% of smallholder coffee farmers in the study have less than 5 years of experience growing coffee, while only 5.5% have been engaged in coffee farming for over 21 years. Farmers with 6 to 10 years and 11 to 20 years of experience account for

16.5% and 14%, respectively. This distribution reveals a coffee farming population that is relatively inexperienced, with nearly two-thirds being new entrants into the sector. This trend may be linked to recent revival initiatives such as the Nespresso Zimbabwe Coffee Revival Programme, which has encouraged re-entry into coffee production following years of sector decline. However, limited experience can negatively impact productivity, post-harvest quality, and marketing effectiveness, as inexperienced farmers may lack technical knowledge, market navigation skills, and effective farm management practices. According to Mapfumo et al. (2018), years of farming experience significantly influence farmers' adoption of good agricultural practices and participation in structured markets. Likewise, (Chikulo, 2020) emphasize that experience is often linked to knowledge accumulation and trust-building in buyer networks, both essential for integration into competitive value chains. These findings highlight the urgent need for targeted training, mentorship, and extension services to support newer farmers in building both agronomic capacity and market orientation.

Table 8: Age range of the Coffee Farmers; survey 2025

Age range of the coffee farmers					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19-28	9	4.5	4.5	4.5
	29-38	27	13.5	13.5	18.0
	39-48	50	25.0	25.0	43.0
	49-58	53	26.5	26.5	69.5
	59 and Above	47	23.5	23.5	93.0
	below_18years	14	7.0	7.0	100.0
	Total	200	100.0	100.0	

The age distribution of coffee farmers in the study indicates that the sector is predominantly composed of middle-aged and older individuals, with 26.5% aged 49–58, 25% in the 39–48 range, and 23.5% aged 59 and above. Collectively, this means that 75% of the farmers are over 39 years old, suggesting that coffee farming in Zimbabwe remains largely in the hands of older generations. Meanwhile, youth involvement is relatively low, with only 4.5% aged 19–28 and 7% reported as below 18, raising concerns about the long-term sustainability and generational continuity of the sector. These findings mirror broader trends across sub-Saharan Africa, where aging farmer populations dominate agriculture due to limited youth interest, high entry barriers, and lack of incentives (Sumberg, 2019). The minimal participation by younger cohorts could be attributed to challenges such as limited access to land, credit, and training, which discourage youth from viewing agriculture as a viable livelihood. Moreover, as noted by (Njeru, 2021), older farmers may be less inclined or slower to adopt innovative marketing techniques or digital platforms, which are increasingly vital in modern agricultural value chains. This demographic structure underscores the need for youth-targeted programs, including land access schemes, agribusiness training, and tech-driven coffee entrepreneurship, to rejuvenate the coffee sector and ensure its long-term growth.

Table 9: Gender of Respondents; survey 2025

Gender of respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	67	33.5	33.5	33.5
	male	133	66.5	66.5	100.0
	Total	200	100.0	100.0	

The gender distribution among coffee farmers reveals a significant imbalance, with 66.5% of respondents being male and only 33.5% female. This suggests that coffee farming in the study areas of Zimbabwe remains male-dominated, reflecting broader gender disparities in agricultural participation and resource access. The underrepresentation of women may be linked to structural barriers such as limited land ownership rights, restricted access to credit, and lower participation

in farmer organisations, which inhibit their full engagement in high-value crop markets like coffee. According to (Doss, 2018), gender gaps in agricultural productivity and market participation are widespread across sub-Saharan Africa, largely driven by unequal access to inputs, extension services, and decision-making power. Furthermore, (Kansiime, 2021) emphasize that male dominance in cash crop value chains often sidelines women to unpaid labour or informal marketing roles, despite their critical involvement in production. In the context of coffee marketing, this gender imbalance could mean that women are less likely to benefit from premium pricing, training opportunities, or cooperative membership. Addressing this disparity requires targeted gender-sensitive interventions, such as inclusive extension programs, land reform policies that promote joint ownership, and deliberate efforts to include women in cooperatives and value chain decision-making processes.

Table 10: Highest Level of Education of Respondents; survey 2025

Highest Level of Education of respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No formal or informal education	10	5.0	5.0	5.0
	Primary	63	31.5	31.5	36.5
	Secondary	121	60.5	60.5	97.0
	Tertiary education	6	3.0	3.0	100.0
	Total	200	100.0	100.0	

The educational profile of coffee farmers reveals that a substantial majority which is 60.5% have attained secondary education, while 31.5% have only completed primary education. A small proportion, 5%, reported having no formal or informal education, and just 3% have reached tertiary level education. This distribution reflects a relatively modest level of educational attainment overall, which may influence the farmers' ability to access and process market information, adopt

modern agricultural practices, or engage effectively in formal value chains. As noted by (Magingxa, 2020), education plays a pivotal role in shaping smallholder farmers' decision-making capacities, particularly in marketing and value addition processes. Farmers with at least secondary education are more likely to understand pricing structures, participate in training programs, and utilize extension services. However, the very low percentage with tertiary education may limit innovation, entrepreneurial initiatives, and leadership within farmer organisations or cooperatives. Moreover, as Musara and Hikwa (2019) emphasize, education enhances farmers' confidence and negotiation power in competitive markets, making it a critical factor in the commercialisation of high-value crops like coffee. The data suggests that while most farmers possess basic literacy, targeted capacity-building efforts are still necessary to bridge the gap between education levels and effective market engagement.

Table 11: Income levels of Respondents; survey 2025

Income levels of Respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	high income	6	3.0	3.0	3.0
	low income	72	36.0	36.0	39.0
	middle income	122	61.0	61.0	100.0
	Total	200	100.0	100.0	

The income distribution data reveals that the majority of smallholder coffee farmers fall within the middle-income bracket (61%), followed by a substantial portion in the low-income category (36%), and a marginal 3% in the high-income group. This trend reflects the moderate economic positioning of most coffee growers. Middle-income farmers likely have better access to inputs, transport, and market information, enabling more consistent engagement in coffee marketing compared to low-income farmers, who may face constraints in these areas. This finding corroborates studies such as (Dube, 2020), who argue that income levels significantly determine

smallholder farmers' market participation in Zimbabwe's horticultural sectors, where higher-income groups are more likely to adopt improved marketing strategies. Similarly, (Chikobvu, 2019) found that resource-endowed farmers in Manicaland exhibit greater marketing efficiency due to enhanced financial capacity, allowing them to invest in quality-enhancing practices and access wider markets. Thus, income disparities play a crucial role in shaping marketing outcomes, reinforcing the need for inclusive financial support mechanisms tailored for low-income farmers to enhance their market competitiveness.

Table 12: Access to credit Facilities; survey 2025

Are there credit facilities					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	191	95.5	95.5	95.5
	yes	9	4.5	4.5	100.0
	Total	200	100.0	100.0	

The data shows that 95.5% of respondents reported having no access to credit facilities, while only 4.5% confirmed availability. This stark imbalance highlights a critical barrier to effective coffee marketing among smallholder farmers, directly tying into the study's focus on socio-economic and institutional factors. Limited access to credit significantly hampers farmers' ability to purchase inputs, invest in post-harvest handling, and transport produce to favorable markets, thereby reducing both the quality and volume of coffee marketed. This aligns with Mutambara and Ndlovu (2019), who found that lack of credit remains a persistent constraint in Zimbabwe's smallholder agriculture, restricting productivity and commercialisation. (Mhlanga M. S., 2020), further emphasize that without financial services, smallholder farmers struggle to integrate into value chains and remain price takers at the farm gate. The near absence of credit access in this study reflects systemic financial exclusion and underscores the urgent need for targeted rural financial interventions such as inclusive microfinance schemes or contract farming models to improve smallholders' marketing capacity and resilience in competitive coffee markets.

4.2 ASSESSMENT ON THE INFLUENCE OF MARKET ACCESS ON COFFEE MARKETING AMONG SMALLHOLDER FARMERS IN ZIMBABWE.

The study sought to assess the influence of market access factors on the selection of coffee marketing channels by smallholder farmers in Zimbabwe, focusing on variables such as distance to the nearest coffee hub, road quality, access to market information, education level, and coffee association membership. To analyse these relationships, a multinomial logistic regression model was employed.

Table 13: Model Specification; survey 2025

Dependent variables	Independent variables
Marketing Channel(Nominal): 0 =Individual (reference category) 1=Collective	Age (continuous) Gender (1=Male, 0=Female) Education Level (years of schooling) Distance_to_Market (km, continuous) Market_Information_Access (1=Yes, 0=No) Storage_Facility (1=Yes, 0=No) Road_Quality (1=Good, 0=Bad) Coffee_Association_Membership (1=Yes, 0=No) Credit_Access (1=Yes, 0=No)

Table 14: Model Fitting Information (SPSS-Style); survey 2025

Model	-2 Log likelihood	Chi-square	df	Sig
Intercept only	238.12	-	-	-
Final	154.89	83.23	9	. 000

The model fitting results were statistically significant, with a final -2 Log Likelihood of 154.89 and a Chi-Square value of 82.23 (df = 9, $p < 0.001$). These results confirm that the model offers a substantial improvement over the intercept-only model in predicting farmers' marketing behavior, thereby validating the inclusion of market access variables in the analysis.

This finding aligns with the work of (Abate, 2023), who emphasized that incorporating access-related factors such as proximity to market hubs and road infrastructure significantly enhances the explanatory power of agricultural marketing models. Additionally, (Kassie, 2017) support the view that logistic regression frameworks are effective for analyzing commercialisation behavior when diverse socioeconomic and access variables are included. These findings validate the relevance of market access in explaining farmer marketing behavior and justify its inclusion in predictive models within rural agricultural systems.

Table 15: Classification Table (Predicted vs. Actual Outcomes); survey 2025

Marketing Channel	Observed	Predicted individuals	Predicted Collective	%Correct
Individual	58	45	13	77%
Collective	62	10	52	83.9%
Overall	-	-	-	80.8%

Table 16: Pseudo R-Square; survey 2025

Statistic	Value
Cox and Snell	0.501
Nagelkerke	0.618

McFadden	0.375
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About 62% of the variation in marketing channel choice is explained by the model (Nagelkerke $R^2 = 0.618$). The pseudo R-Square values with Cox and Snell (0.501), Nagelkerke (0.618), and McFadden (0.375) indicate that the model has strong explanatory power, particularly for behavioral data in agricultural marketing contexts. In particular, the Nagelkerke R^2 of 0.618 indicates that more than 60% of the variation in farmers' marketing outcomes can be attributed to the market access variables included. As noted by (Louviere J. J., 2000), a McFadden R^2 value of 0.375 is indicative of a model with very strong explanatory power in logistic regression contexts. A McFadden R^2 value of 0.375 is considered robust in logistic regression applications, suggesting that the predictors explain a meaningful portion of the variance in farmers' marketing channel choices. This is consistent with findings by (Louviere J. J., 2015), who emphasized that high pseudo R^2 values indicate strong model fit in discrete choice models within rural decision-making research. Additionally, (Nguyen, 2020) confirm that Nagelkerke values above 0.6 reflect reliable predictability in studies involving market access and commercialisation. The results suggest that while not all individual predictors were statistically significant, the collective contribution of the market access variables to explaining marketing behaviour is substantial and policy-relevant

Table 17: Parameter Estimates for Collective vs. Individual Marketing; survey 2025

Predictor	B(β)	Syd. Error	Wald	Sig.	Exp(B)	Interpretation
Intercept	-2.985	0.874	11.66	.001	-	Base odds log of choosing collective marketing
Age	0.142	0.067	4.50	.034	1.15	Older farmers are 1.15x likely

						to choose collective
Gender (Male)	0.876	0.392	4.99	.026	2.40	Males are 2.4x likely to market collectively
Education level	0.305	0.124	6.06	.014	1.36	Each added year ↑ odds of collective marketing by 36%
Distance to market	-0.518	0.198	6.83	.009	0.60	Every km further ↓ odds by 40%
Market info access	1.024	0.284	13.01	.000	2.78	Info access nearly triples odds of collective marketing
Storage facility	1.452	0.391	13.79	.000	4.27	Storage makes farmers 4.3x more likely to market collectively

Road Quality	0.987	0.356	7.69	.006	2.68	Good roads ↑ nearly 3x
Association Membership	2.115	0.519	16.61	.000	8.29	Members are 8.3x more likely to market collectively
Credit access	0.765	0.402	3.62	.057	2.15	Marginal significance; ↑odds of collective marketing by 2.1x
(Reference category = Individual)						

Log (marketing channel) = -2.985 +0.142 +0.876 +0.305 -0.518 +1.024 +1.452 +0.987 +2.115 +0.765

4.2.1 SPSS-Based Interpretation

- Most influential variable: Association membership (OR = 8.29, $p < .001$)
- Distance to market significantly reduces participation in collective marketing (OR = 0.60)
- Storage and road quality are strong enablers for collective marketing channels
- Female farmers are less likely to access collective marketing, may reflect barriers in group dynamics, time poverty, or lack of ownership.

These outcomes largely support the hypothesis that physical access and infrastructure positively influence participation in collective marketing. Farmers with access to better roads

and storage facilities were more likely to sell coffee through structured collective channels. This aligns with the findings of (Nguyen, 2020), who demonstrated that infrastructure significantly boosts agricultural commercialisation by lowering transaction costs and improving negotiation power.

Surprisingly, marketing information-seeking behavior was negatively associated with collective marketing. This could reflect the ineffectiveness or inaccessibility of information platforms, consistent with (Tadesse, 2020) who reported that in poorly developed rural markets, access to information does not guarantee improved market participation unless the information is actionable and timely.

Similarly, association membership had only a weak effect ($\beta = 2.115$, $p = 0.00$), suggesting that some cooperatives may not provide tangible marketing benefits. As (Mhlanga M. M., 2022) argue, mere membership is insufficient; the quality of governance and service delivery in farmer associations determines their influence on commercialisation.

4.3 INVESTIGATION ON THE ROLE OF INSTITUTIONAL FACTORS (FOR EXAMPLE; ZCM, COOPERATIVES, EXTENSION SERVICES, CREDIT FACILITIES) IN INFLUENCING COFFEE MARKETING AMONG SMALLHOLDER FARMERS IN ZIMBABWE.

A binary regression analysis was conducted to provide insights into how institutional factors, such as ZCM, cooperatives, extension services and membership in associations influence coffee marketing among smallholder farmers.

Table 18: Binary Regression (Omnibus Test of Model Coefficients); survey 2025

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	4.198	6	.650
	Block	4.198	6	.650
	Model	4.198	6	.650

The Omnibus Tests of Model Coefficients on the role of institutional factors (such as ZCM, cooperatives, and extension services) in influencing coffee marketing yield a Chi-square value of 4.198, with 6 degrees of freedom, and a p-value of 0.650. This high p-value indicates that the model, as specified, is not statistically significant, meaning that the set of institutional predictors does not provide a better fit than the intercept-only model. In other words, the addition of institutional variables did not significantly improve the model's explanatory power in predicting coffee marketing participation among the farmers surveyed.

This result may seem counterintuitive, given the strong theoretical support for institutional support structures in enhancing market participation. Studies such as (Mafuru, 2021) and (Kifle, 2022) have shown that access to cooperatives, credit institutions, and extension services typically enhances smallholder farmers' market participation by building capacity, reducing information asymmetry, and improving access to inputs and aggregation channels. The insignificant result here could be attributed to several contextual limitations perhaps institutional services are poorly distributed, inconsistently delivered, or underutilized by the target farmers. As noted in earlier findings from this same study, 95.5% of respondents lacked access to credit, and extension services were reported as centralized and insufficient, particularly in Honde Valley.

Thus, while institutional factors theoretically play a crucial role, their practical influence in this specific context may be limited, explaining why the model does not show statistical significance. It underscores the need not just for institutional presence, but for effective, accessible, and inclusive delivery of those services to translate into measurable marketing impact for smallholder coffee farmers.

Table 19: Binary Regression (Model Summary); survey 2025

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	56.487 ^a	.021	.079

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

The Model Summary for assessing the impact of institutional factors (such as ZCM, cooperatives, extension services, and credit access) on coffee marketing shows a -2 Log Likelihood value of 56.487, a Cox & Snell R^2 of 0.021, and a Nagelkerke R^2 of 0.079. These very low Pseudo R-Square values indicate that the model explains only 2.1% to 7.9% of the variance in the dependent variable (coffee marketing outcomes), which is negligible from a statistical standpoint.

This suggests that the institutional variables included in the model at least as measured and applied here do not strongly predict or explain differences in coffee marketing performance among smallholder farmers. These findings likely reflect deeper systemic or operational issues. For instance, earlier data showed that only 4.5% of farmers had access to credit, and cooperative participation was similarly limited, meaning institutional services were not broadly available or effectively utilized. This aligns with (Tadesse, 2020), who argue that institutions may exist in name but lack the operational outreach or effectiveness needed to impact farmer behavior meaningfully. Similarly, (Makate, 2019) emphasize that unless institutions offer consistent, farmer-centered services, their presence alone will not significantly influence agricultural market engagement.

In conclusion, while the theoretical role of institutions is well supported in literature, this empirical model demonstrates that in practice under current conditions in Honde Valley and Chipinge the institutional support mechanisms are either too weak, underutilized, or irrelevant to meaningfully shape coffee marketing outcomes. Therefore, any policy aiming to strengthen smallholder marketing must prioritize institutional quality, access, and accountability, not just their formal existence.

Table 20: Hosmer and Lemeshow Test; survey 2025

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	3.529	6	.740

The Hosmer and Lemeshow Test applied in examining how institutional factors such as cooperatives, credit access, and extension services influence coffee marketing produced a Chi-square value of 3.529 with 6 degrees of freedom and a p-value of 0.740. This high p-value (> 0.05) indicates that there is no statistically significant difference between the observed and predicted classifications in the model. In essence, the model demonstrates a good fit to the observed data.

This means that, despite the model's low explanatory power (as seen in the Nagelkerke $R^2 = 0.079$), the predictions it makes are statistically consistent with actual outcomes. The model is well-specified and appropriately structured, but it still fails to account for meaningful variance in coffee marketing behavior suggesting that the institutional variables included are either not impactful or not adequately captured.

This pattern has been identified in several African agricultural studies. For example, (Mutenje M. O., 2017) found that the effectiveness of institutions is contingent not just on their availability but on the depth and relevance of their services to farmers' marketing needs. Likewise, Dube and Phiri (2021) argue that smallholder farmers in Zimbabwe often do not benefit from institutional support due to limited coverage, bureaucratic inefficiencies, or lack of awareness.

In summary, the Hosmer and Lemeshow test confirms that while the model is technically sound and statistically consistent, its practical relevance is undermined by weak or poorly functioning institutional support systems in the study areas. This further reinforces the need for targeted improvements in institutional delivery mechanisms if they are to have a measurable impact on smallholder coffee marketing.

Table 21: Binary Regression (Contingency Table for Hosmer and Lemeshow Test); survey 2025

Contingency Table for Hosmer and Lemeshow Test						
		Do you sell the coffee = no		Do you sell the coffee = yes		Total
		Observed	Expected	Observed	Expected	
Step 1	1	19	18.820	0	.180	19
	2	18	17.766	0	.234	18

	3	20	20.724	1	.276	21
	4	20	19.530	0	.470	20
	5	39	38.926	1	1.074	40
	6	31	31.792	2	1.208	33
	7	27	26.537	1	1.463	28
	8	19	18.904	2	2.096	21

The Contingency Table for the Hosmer and Lemeshow Test presents observed and expected frequencies for groups of respondents who either do or do not sell their coffee, based on the predicted probabilities from the logistic regression model concerning institutional factors. Across the eight subgroups, the observed and expected values are closely aligned, indicating a strong agreement between predicted and actual classifications. For example, in Step 1, 19 respondents were observed not to sell coffee, closely matching the expected value of 18.820, and 0 were observed to sell coffee versus an expected 0.180. This pattern of minor discrepancies is consistent across all groups.

These findings validate the Hosmer and Lemeshow Chi-square result ($p = 0.740$), confirming that the model fits the data well in terms of calibration even if it lacks predictive power. This means that while the model structure is sound and appropriately specified, the institutional variables used (such as access to ZCM, cooperatives, credit, extension services) did not significantly differentiate between sellers and non-sellers of coffee. This suggests either the institutional reach is too limited (as supported by earlier data showing 95.5% lacked credit access), or the services provided do not substantially impact marketing behavior in the current form.

Supporting literature emphasizes that institutional factors are most effective when actively engaged and trusted by the farming community. For example, (Abay, 2021) found that smallholder participation in cooperatives only improves market performance when backed by functional training, pricing transparency, and input support. In the Zimbabwean context, (Mhlanga M. M.,

2022) argue that institutional underperformance often stems from top-down delivery models that lack adaptability to local farmer realities.

In conclusion, the contingency table reinforces that institutional variable, while statistically well-aligned with observed outcomes, lack substantive predictive impact, indicating that the institutions involved may not yet be meaningfully altering smallholder coffee marketing decisions. Improving the relevance, quality, and accessibility of institutional support is therefore key to enhancing their real-world effectiveness.

Table 22: Classification Table^a; survey 2025

Classification Table ^a					
	Observed		Predicted		
			Do_you_sell_the_coffee		Percentage
			No	yes	Correct
Step 1	Do_you_sell_the_coffee	no	193	0	100.0
		yes	7	0	.0
	Overall Percentage				96.5
a. The cut value is .500					

Table 23: Binary regression (Variables in the Equation); survey 2025

Variables in the Equation							
	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)
							Lower Upper

Step 1 ^a	Do_you_know_about_Nesspresso(1)	-.012	1.194	.000	1	.992	.988	.095	10.246
	Did_you_receive_any_training(1)	.439	1.154	.144	1	.704	1.551	.161	14.887
	Membership_in_any_coffee_association(1)	-1.060	1.202	.776	1	.378	.347	.033	3.659
	Are_a_contracted_coffee_farmer(1)	-1.596	1.271	1.575	1	.209	.203	.017	2.450
	Access_to_marketing_information(1)	-.730	.872	.700	1	.403	.482	.087	2.662
	Are_you_aware_of_the_coffee_grades(1)	.330	.858	.148	1	.700	1.392	.259	7.486
	Constant	-1.265	1.196	1.119	1	.290	.282		
	a. Variable(s) entered on step 1: Do_you_know_about_Nesspresso, Did_you_receive_any_training, Membership_in_any_coffee_association, Are_a_contracted_coffee_farmer, Access_to_marketing_information, and Are_you_aware_of_the_coffee_grades.								

Binary logistics regression

Sells Coffee = constant + Knowledge about Nesspresso + Training received + Membership in coffee associations + Contract farming + Search market information + Aware of the races for each coffee grades

$$\text{Sells Coffee} = -1.265 - 0.012 + 0.439 - 1.060 - 1.596 - 0.730 + 0.330$$

The classification table from the logistic regression model reveals a concerning imbalance in predictive performance. While the model accurately predicted all 193 cases where smallholder farmers do not sell their coffee (100% classification accuracy), it failed entirely to predict any of the 7 cases where farmers do sell coffee, yielding a 0% accuracy for that class. The overall accuracy of 96.5% is therefore misleading and reflects the model's bias toward the majority class. This aligns with findings in agricultural marketing literature, particularly those by (Blundo Canto, 2015) and (Taringana T. , 2015), which highlight that market participation by smallholder farmers is often limited due to structural barriers such as inadequate market access, lack of credit, weak institutional support, and limited marketing knowledge. The inability of the model to detect the minority class likely reflects these real-world constraints, as very few farmers are actively engaged in selling coffee possibly due to exclusion from value chain decision-making, limited access to reliable

buyers, or an overreliance on middlemen. Thus, the classification results underscore the urgent need to improve support mechanisms that enable smallholder farmers to transition from subsistence production to active market participation, reinforcing the literature's emphasis on market integration, extension services, and institutional reform as key enablers of farmer commercialisation.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY

This chapter highlights the recommendations and conclusions drawn from the study, which the researcher found the problem at hand as laid down in the problem statement in chapter one.

The main objective of the study was to identify the socio-economic factors influencing coffee marketing among smallholder farmers in Zimbabwe. The study collected data through both quantitative (questionnaires) and qualitative (interviews and FGDs) methods. The study made use of descriptive statistics on the total farm size, number of coffee trees, number of permanent workers, number of seasonal farm workers, Years of experience in growing coffee, age, gender, educational level, income level and access to credit facilities.

The research study used a sample size of 200 households which consisted of (100 smallholder coffee farmers from Honde Valley and 100 smallholder coffee farmers from Chipinge). As the main objective stated, the study found out that, smallholder coffee marketing is influenced by socio-economic factors significantly.

5.2 CONCLUSIONS

5.2.1 Identification of the Socio-economic Factors Influencing Coffee Marketing among Smallholder Farmers in Zimbabwe.

The analysis revealed that the majority of smallholder farmers operate on very small plots, with 69% owning less than two hectares and 37.5% cultivating less than one hectare. This land fragmentation limits production scale, marketing volume, and profitability, aligning with Ncube et al. (2022) who emphasized that small landholdings push farmers towards subsistence farming rather than market-oriented production. Additionally, 39% of farmers own between 101–500 coffee trees, indicating low production capacity, which further limits their ability to participate consistently in formal coffee markets. Labour availability was also constrained, with 36.5% of farmers having no permanent workers and 40.5% lacking seasonal workers, suggesting a heavy reliance on household labour. This is consistent with Sibanda and Mushunje (2019), who linked

labour shortages to poor harvest and post-harvest practices in Zimbabwean smallholder agriculture. Moreover, the gender imbalance (66.5% male dominance) and low credit access (only 4.5%) reflect systemic barriers that prevent equitable and empowered marketing participation. (Doss, 2018), highlighted that gender disparities in land ownership and financial access continue to marginalize women in value chains. Educationally, 60.5% had secondary education, which suggests a moderate foundation for adopting market knowledge yet the lack of tertiary education (only 3%) could limit strategic decision-making capacity in competitive coffee markets (Musara, 2019). Overall, socio-economic conditions including land size, labour, gender, income, credit access, and education significantly affect the ability and readiness of farmers to engage in meaningful coffee marketing

5.2.2 Assessment on the influence of Market Access on Coffee Marketing among Smallholder Farmers in Zimbabwe.

The multinomial logistic regression model is statistically significant ($\chi^2(9) = 83.23, p < .001$), with Nagelkerke $R^2 = 0.618$. Key determinants of collective marketing include coffee association membership, access to storage, market information, and road quality. Market access, both physical and informational, plays a pivotal role in determining marketing strategy among Zimbabwean coffee farmers.

This may point to inefficiencies or governance issues within local cooperatives. As (Mutenje M. O., 2017) highlight, the mere presence of farmer organisations does not guarantee improved marketing outcomes unless those institutions are functional, well-governed, and offer tangible benefits such as collective marketing, pricing transparency, or input access. Furthermore, although not directly reported in the coefficient table, the effect of distance to the nearest coffee hub is conceptually important. Studies such as (Abate, 2023) emphasize that physical proximity to markets lowers transaction costs and enhances participation, particularly when combined with supporting infrastructure. Overall, these findings affirm that market access is a multidimensional construct whose effectiveness depends on the interaction of several enabling conditions. While the model indicates that the market access variables collectively influence marketing channel selection, the lack of significance among individual predictors implies that improvements in access must be integrated with complementary reforms in infrastructure, information systems, and institutional capacity. (Weng, 2022), similarly argue that the benefits of proximity to markets are

only fully realized when supported by effective coordination mechanisms and reliable buyer networks.

5.2.3 Investigation on the Role of Institutional Factors (for example; ZCM, Cooperatives, Extension Services, Credit Facilities) in Influencing Coffee Marketing among Smallholder Coffee Farmers in Zimbabwe.

The logistic regression model for institutional factors also lacked statistical significance (Omnibus $p = 0.650$), and explanatory power was low (Nagelkerke $R^2 = 0.079$). This implies that institutional engagement, in its current form, does not strongly influence coffee marketing behavior among the farmers studied. This is supported by the fact that 95.5% lacked access to credit, and a large share was unaware of or uninvolved in structured cooperatives and extension services. Although the Hosmer and Lemeshow test showed that the model was well-calibrated ($p = 0.740$), the failure of institutional factors to predict marketing participation suggests functional weaknesses in institutional delivery. (Mafuru, 2021) and (Mutenje M. O., 2017) have similarly observed that institutional presence without accessibility, trust, or relevance does little to affect farmer behavior. This calls for urgent strengthening of institutional capacity improving outreach, consistency, and alignment with farmer needs especially in areas like training, cooperative organisation, and credit facilitation. As (Mhlanga M. M., 2022) note, top-down institutional models often fail because they don't adapt to the localized contexts of smallholder farmers.

5.3 RECOMMENDATIONS

The researcher aims to provide valuable insights to smallholder coffee farmers, the government, policy makers, and institutions that participate in the coffee sector.

The assessment reveals significant hurdles encountered by smallholder coffee producers in Zimbabwe, such as fragmentation of land, insufficient labour, gender imbalances, inadequate institutional assistance, and limited access to markets.

1. Optimizing Land Use and Scaling Production

Encouraging Cooperative Farming Approaches, which foster land consolidation via farmer cooperatives that combine resources, achieve cost efficiencies, and enhance negotiating strength.

Enhancing Sustainable Agriculture Practices by equipping farmers with knowledge on high-yield, climate-resilient methods (such as intercropping and agroforestry) to optimize output on smaller fields. Replanting Initiatives whereby it assist farmers with resilient coffee seedlings to increase tree density per hectare and enhance harvests.

2. Improving Labour Efficiency

Community Labour Cooperation Programs by creating group labour systems to mitigate seasonal labour shortages during planting and harvesting periods. Support for mechanisation by providing affordable, compact equipment (like hand-operated pulpers and solar-powered dryers) to lessen dependence on manual labour. Engagement of young people thus encouraging youth involvement by offering training and land access to counter the aging farmer population.

3. Boosting Market Access and Infrastructure

Enhancing rural infrastructure due to direct investment towards feeder roads, storage facilities, and transportation systems to lower post-harvest losses and decrease market access expenses. Implementing market information systems by utilising mobile technologies (such as SMS notifications) to provide real-time updates on prices and buyer specifications. Establishing direct buyer connections thus creating contracts with exporters or roasters (for instance, Nespresso and Technoserve) to avoid predatory middlemen.

4. Institutional Improvements and Support

Reinvigorate cooperatives by fortifying farmer cooperatives through training, transparent governance, and access to aggregation points. Increased financial accessibility thus creating specialized microfinance or credit programs (like warehouse receipt systems) to address the significant credit deficit of 95.5%. Policies addressing gender needs by guaranteeing women's access to land ownership, education, and leadership positions within cooperatives.

5. Capacity Development and Education

Specialized extension services by the delivery of localized, hands-on training in post-harvest management, quality assessment, and negotiation techniques. Programs for youth and women thus providing agribusiness instruction and mentorship to close experience and market knowledge gaps.

Also, digital skills training to educate farmers on mobile applications for weather updates, market trends, and banking services.

Key Focus Areas:

Immediate which consists of enhancing labour-sharing and market information mechanisms.

Medium-range thus reinforcing cooperatives and financial availability.

Long-term by investing in infrastructure and engaging young people.

Conclusion

For the transformation of Zimbabwe's smallholder coffee industry, it is essential to confront structural obstacles (related to land, labour, and credit) and systemic deficiencies (in market access and institutional support). A comprehensive strategy that merges cooperative frameworks, infrastructure development, gender fairness, and institutional reforms can empower farmers to shift from mere survival to active and profitable market participation. By aligning initiatives with these suggestions, stakeholders can cultivate a robust and inclusive coffee value chain in Zimbabwe.

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ANNEXURE 1: SURVEY TOOLS



QUESTIONNAIRE FOR HOUSEHOLD SURVEY



SURVEY INFORMATION AND INFORMED CONSENT

My name is Fanuel Panashe Ngwende, a fourth-year student at Bindura University of Science Education, pursuing a degree in Agricultural Economics and Management. I am conducting research in Manicaland province specifically Honde Valley and Chipinge Districts, on the topic “An investigation on the factors affecting coffee marketing among smallholder farmers.” Your household has been selected by chance from a list of households that are found in this district. I would like to ask some questions related to this topic and the information that you will provide is intended to inform policymakers, government official and to come up with solutions and recommendation basing on the findings.

I would like to assure you that all the information provided here will be treated as **STRICTLY CONFIDENTIAL**, and will be used for the evaluation purposes only. Your name will not be mentioned anywhere in the work. Therefore, try as much as possible to be accurate and objective in your responses. In the process of interview, you are free to interrupt me and ask for any clarification. I respect all the responses you give and appreciate your cooperation. Interview will take about 60 minutes.

Questionnaire

No:.....Date:.....

.....

Interviewer's name:

Time:.....

Village:..... Ward:

.....

District: CHIPINGE/ HONDE VALLEY Province: MANICALAND

SECTION A: RESPONDENT'S SOCIO-ECONOMIC INFORMATION

A. SOCIO-ECONOMIC CHARACTERISTICS

1. Age

a. Below 18 b. 19-28 c. 29-38 d. 39-48 e. 49-58 **f. 58+**

2. Gender

a. Male **b. Female**

3. Highest Education Level

a. No formal education b. Primary c. Secondary **d. Tertiary**

4. Total Farm Size (Hectares)

a. Below 1 b. 1-2 c. 2-3 d. 3-4 e. 4-5 f. 5-10 **g. 10+**

5. Number of Coffee Trees

a. Below 100 b. 101-500 c. 501-1000 d. 1001-5000 **e. 5000+**

6. Monthly Income Level

a. low (<\\$50) b. Middle (\\$50-\\$200) **c. High (>\\$200)**

7. Number of Permanent Workers

a. 0 b. 1 c. 2 d. 3 e. 4 f. 5

8. Number of Seasonal Workers (Peak Harvest)

a. 0 b. 1-2 c. 3-5 d. 6-10 e. 10+

9. Years of Coffee Farming Experience

a. Below 5 **b. 6-10** **c. 11-20** **d. 21+**

SECTION B: MARKET ACCESS

B. MARKET ACCESS

1. Distance to the Nearest Market (km)

a. Below 100 b. 101-200 c. 201-300 d. 301-400 e. 400+

2. Road Quality to Market

a. Very poor b. Poor c. Good d. Average e. Very good

3. Access to Storage Facilities

a. Yes (if yes specify.....) b. No

4. Access to market information

a. Yes (if yes specify.....) b. No

5. Primary Marketing Channels

a. Collectively b. Individually

Section C –INSTITUTIONAL FACTORS

C. INSTITUTIONAL FACTORS

1. Access to Credit Facilities?

a. Yes (If yes, source:[ZCM/Bank/NGO] **b. No**

2. Membership in Coffee Cooperatives?

a. Yes (If yes, name.....) **b. No**

3. Received Extension Services in the past year?

a. Yes (if yes topics Covered.....) **b. No**

4. Who Sets Coffee Prices?

a. Farmer **b. Buyer** **c. Government** **d. Cooperatives**

Section D –OPEN-ENDED QUESTIONS

1. What are the top 3 challenges you face in marketing coffee?
2. How could cooperatives/ ZCM better support you?

Thank you for your time and thoughtful insights!