ANALYSIS OF STRATEGIES FOR REVIVING COFFEE PRODUCTION IN COOPERATIVE SOCIETIES IN MERU COUNTY KENYA

ELIPHUS MUCHUNKU SABARI

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DECLARATION AND RECOMMENDATION

Declaration

This research thesis is my original work and has not been presented for a degree or any other award in any other University.

Sign…..... Date……...

Eliphus Muchunku Sabari

BUS-3-0203-1/2016

Recommendation

We confirm that the work reported in this thesis was carried out by the candidate under our supervision.

Sign……..... Date……...

Dr. Paul Gichohi PhD

Kenya Methodist University

Sign……..... Date……...

Dr. Nancy Rintari PhD

Kenya Methodist University

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DEDICATION

I dedicate this work to my late Mum and Dad for their encouraging words

ACKNOWLEDGEMENT

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ABSTRACT

Coffee farming has shown to be two to four times more effective in raising the incomes of the poor than non-agricultural activities. However, the full potential of coffee production has been facing several challenges. This study analyzed strategies for reviving coffee production in cooperative societies in Meru county Kenya. The objectives of the study were to evaluate the influence of land ownership, coffee financing, coffee pricing, and corporate governance in cooperative societies on reviving coffee production in cooperative societies in Meru county Kenya. Three theories that were adopted in this study were the entitlement theory which guided inquiries into land ownership; stakeholder theory which guided inquiries into both coffee financing and marketing, while agency theory-guided inquiries into corporate governance. A descriptive survey research design was used in the study. The respondents were the coffee farmers and managers from coffee cooperative societies. A sample of 42 cooperative societies in Meru county was considered. Coffee farmers were sampled using simple random sampling for those who met inclusion and exclusion criteria, while all managers in all the sampled cooperative societies participated in the study. Both managers and coffee farmers were selected by simple random sampling technique. Data collection was done using closed-ended questionnaires and interviews which was applied to coffee farmers and managers respectively in the coffee cooperative societies in Meru county Kenya. To ensure validity and reliability, pre-testing of questionnaires was done on 10 active coffee farmers, while pre-test interviews were administered to 5 managers from Kamuthi housing cooperative society of Murang' a county. Coded data in SPSS 24.0 computer program was analyzed quantitatively using descriptive statistics such as mean, percentage, and standard deviation. Univariate regression and multiple regression were used to test the hypothesis of the study. Tables, graphs, and detailed explanations were used to present the final results of the study. The study found that land ownership did not significantly influence reviving coffee production in cooperative societies in Meru county Kenya. The size and ownership structure of land were not very important but how it was utilized in coffee production. However, the study further found out that coffee financing, coffee pricing, and corporate governance significantly influenced reviving coffee production in cooperative societies in Meru county Kenya. Results implicate on government policies should also be to ensure that coffee-growing zones are protected to reduce encroachment by the real estate sector. This study contributed new knowledge and increased coffee knowledge in strengthening policies by discovering that the four strategies when combined were positive and significant towards the revival of coffee production in cooperative societies of Meru County.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

CBK	Coffee Board of Kenya
FAO	Food & Agriculture Organization of the United Nations
GDP	Growth domestic product
KCB	Kenya Commercial Bank
KCPTA	Kenya Coffee Producers and Traders Association
ICO	International Coffee Organization
SMEs	Small and medium-sized enterprises

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Coffee farming supports a large proportion of individuals globally, beginning from the ones that came from humble backgrounds to the wealthiest lot (Berthaud, 2015). Regionally, African coffee production is termed as the cradle of coffee, producing one of the best types of coffee (Danson & Lashermes, 2012). A nation like Ethiopia is among the top six nations that produced quality Arabica coffee globally (Global Agricultural Informational Network, 2019a). African consumption demand is improving whereby an example of South Africa's huge population recently provided a huge coffee market in Africa due to the increase in coffee consumption by the middle class in the nation (Coffee Business Intelligence, 2018). Coffee products being key economic boosters in Africa and similar to all other produced commodities are experiencing punitive disparities during supply due to extreme price volatility, social, political, and economic factors that are making Africa not achieve its full potential (Descroix & Snoeck, 2019).

East Africa has an outstanding record of coffee production both globally and in African regions (Export Processing Zones Authority, 2016). A country like Uganda was among the top-ten nations in the world that produced coffee for mass consumption both locally and internationally (East African Finest Coffee Association, 2010). It is expected that the coffee industry in East Africa grows at an estimation of 7.5 percent in the next 5 years (Mordor Intelligence, 2018). However, there are measures put in place to enhance the capitalization of the domestic market, successfully international market, and automate their coffee

production methods to ensure efficiency and stand a higher chance of competing against other coffee producers' rivals (East African Finest Coffee Association, 2010).

In Kenya, trading of coffee products employs entrepreneurs; enhanced global cohesion; increased balance of payments in a nation due to foreign exchange, and infrastructural growth and development amongst other factors (Mordor Intelligence, 2018; Pendant, 2014). These factors have boosted the achievement of vision 2030 of attaining annual growth of 10 percent and also contributed to the big four agenda of the Kenyan government of ensuring there was plenty of food within our borders. Apart from that, coffee seeds are mainly sold unroasted and later crushed to form coffee powder used for a beverage which is a popular drink that reduces mental and physical fatigue to improve alertness (Ruch & Fay, 2011). Coffee also has the medicinal value of minimizing illnesses such as Parkinson, Alzheimer's, dementia, low reasoning ability, type 2 diabetes, gallstones, and gout amongst others (Stoffelen, 2016; Silvarolla, 2014).

Despite that, the general coffee industry in Kenya has its highs and lows spread over two decades. Unlike other produced commodities such as horticulture products whose prices are seen stabilizing for an economic length of time, coffee products do not experience this phenomenon (Karanja, 2018). The alarming level of price fluctuations in the industry is extended to coffee seeds producers in Kenya thus exposing them to losses that deteriorate their motivation to farm coffee (Kenya Coffee Producers and Traders Association, 2012). These are some of the numerous challenges facing coffee production. This enthused this study to contribute to solving this problem. This chapter was organized by describing the aspect of coffee production; strategies; cooperatives societies; statement of the problem; research objectives; hypothesis of the study; the significance of the study;

the scope of the study; limitations of the study; delimitations of the study; assumptions of the study and definition of the term concluded.

1.1.1 Coffee production

Production is the process of creating goods and services in large quantities (Kimenju, 2019; Kenneth, 2016). International coffee organization (2019) in its description of coffee production, revealed that it is the manufacturing procedure of changing fresh fruit of coffee plant into finished coffee that had an added value to intensify proceeds created from the coffee. However, another definition of coffee production by Krishna in 2017, incorporates the aspect of farming the coffee tree by saying the process begins from farming and not just processing until it is sold. Therefore, coffee production in this study was taken to mean the process of farming of coffee plantations to harvest coffee beans that are traded through cooperative societies to earn income. A co-operative society is a financial establishment that governs finances and markets amongst other obligations, the efforts of a group of individuals who are involved in agricultural activities (East African Finest Coffee Association, 2010).

Different industries measure production differently. The automotive industry quantifies production by the number of units manufactured, total cost to manufacture, utilization rates, average production downtime, yield, defective units, and inventory turnover ratio (Ford, 2018). Building and construction measures production by the number of units built, income, and total cost of building (Aecom Engineering Company, 2018). The mining industry measures production by volumes mined intones, kilograms amongst others, cost of mining, and turnover ratio (World Bank, 2017). Coffee production in this study was therefore characterized by volumes produced, gross income, and total cost of production

turn over time and net income. This is because volumes produced, total income and total cost of production were recognized as quantifiers of coffee production both locally and internationally by the Coffee Board of Kenya (CBK) and International coffee organization (ICO) respectively (CBK, 2012; ICO, 2019a).

In developed nations globally such as America and Europe, coffee production is undergoing through challenges such as poor governance causing supply deficits of coffee; deficiencies in labor; price volatility; unreliable incomes; limited ability to value coffee; low demand; low industry growth; supply shrinkage; and diminution in demand for land which was being substituted to real estate (International coffee organization, 2019; United Nations, 2019a). In Asia, challenges affecting coffee production are land dilapidation; demotivating prices of coffee; an upsurge in cost of inputs; and low coffee quality (Krishnan, 2017). In a developing nation like Guatemala, it is contending with low transnational coffee prices, poor quality coffee production due to pests and diseases management; stiff competition to cooperative societies from direct buyers who buy coffee products at a higher price; and stagnant sales (Global Agricultural Informational Network [GAIN], 2019b).

Regionally in African nations, issues such as under-developed markets; little training on coffee production hence the skill of coffee management was only in the aging people; rapid rural to urban migration; low notches of capital intensity in coffee in North African nations like Egypt due to poor financing; life-threatening poverty due to poor payments by cooperative societies, inequalities among different farmers; and old farming methods being in use. Ethiopia is the largest African coffee exporter is engulfed by contests such as poor local resource armament; price volatilities; failure to comply with volumes requirements;

quality contracts; and traceability of coffee contracts concerns at the Ethiopia commodity exchange (GAIN, 2019a; United Nations, 2019b; Food & Agriculture Organization of the United Nations [FAO] 2017).

Locally in Kenya, coffee production is facing menaces such as misappropriation of farmer's revenue by cooperative societies leading to poor payment to farmers; poor governance originating from under-developed policies and regulations; biasness in coffee trade due to outdated marketing strategies that are still applicable; poor quality of coffee output promoting to poor prices that are below producing costs; overproduction of coffee seeds, coffee diseases and budding disparity in the coffee value-chain; marketing challenges (Kimenju, 2019; Karanja, 2018*;* Baddini, 2016; Kenneth, 2016; Grisson & Guilla 2014; Silvarolla, 2014; Mwamzali, 2011). These challenges amongst others cause coffee production stakeholders to think of ways that could be used to curb these issues before they kill the coffee industry completely. There are very many strategies suggested for the revival of coffee production in Kenya. Strategies such as land ownership, coffee financing, pricing, and governance were some of the strategies this study dwelt on.

1.1.2 Strategies for Reviving Coffee Production

A strategy is a plan of action designed to achieve a long-term goal or overall aims (Food and Agriculture Organization, 2017). The types of strategies that are most common in many nations and that were considered in this study were land ownership, coffee financing, coffee marketing, and coffee governance. Land ownership is the ability of an individual or a group of people to have the capacity in terms of attaining legal age and resources to acquire a piece of land either through buying, leasing, or inheritance (World Bank, 2013).

Coffee financing is the procedure of the provision of money to support various coffee production activities such as payment of farmers (Descroix & Snoeck, 2019). Coffee pricing is the process of valuing effectively a coffee product based on both economic factors such as inflation rate, policies, competitive alternatives, and intended consumers amongst other factors (ICO, 2019a). Corporate governance of cooperative societies is the system of administration through which a cooperative society operates and abided by the formulated rules that ensure accountability for consistency (ICO, 2019b).

Globally in developed nations, coffee is one of the most traded agricultural products with an estimated value of 19 billion American dollars signifying 70% of coffee export (Salado, 2018). The coffee industry with a huge financing boost of 83 billion American dollars, can offer employment to 125 million individuals who work in different parts of the industry (International coffee organization, 2019). Developed nations such as America, Germany, and France who are the largest consumers of coffee products put up coffee financing policies that have boosted the industry to allow huge coffee seeds imports (Workman, 2019). For example, in 2019 America imported USD 6.3 billion, Germany imported USD 3.5 billion while France imported USD2.8 billion (Workman, 2019). Other developments that are used by developed nations to revive and improve coffee production are edification of coffee producers; coffee farmers being boosted by endowments; low-cost farm inputs; the government active participation in the production process; improved espousal of intended bearable ideals by coffee producers; (International coffee organization, 2019; Workman, 2019; Salado, 2018; Grisson & Guilla, 2014).

In developing nations, Brazil, Vietnam, and Columbia lead the way towards having robust coffee governance and marketing strategies that have seen to it that they produced

and exported widely. For example, in 2017 Brazil's coffee production was USD4.6 billion, Vietnam's coffee production was USD 3.5 billion; Columbia's coffee production was USD 2.58 billion. There is a growing demand from producing nations such as Brazil and Indonesia that had not conventionally been among the main coffee traders; development of marketing opportunities and coffee founded products such as ready to drink products; improved coffee governance which caused plenty coffee supply approximated at 30.95 million bags for exports in Brazil in 2019 (United States Department of Agriculture, 2019; GAIN, 2019b; Sanger 2019; Panhuysen, & Joost, 2018; Mordor Intelligence 2018)

Regionally in Africa, there is improved advocacy of having land ownership strategies whereby, 67-80% of the 12.5 million farms which are majorly owned by the 22 low human development countries to boost coffee production; enhancement of good quality of coffee that draws high prices; introduction of modern production approaches of coffee; universal assessment of unbiased trade on coffee with a farmer representation in Egypt; expansion of quality and produce because of improved selling channels, producer's cognizance of the whole progression and increased land ownership in Egypt; Boost of selling channels and farmer's motivation leading to enhanced coffee productivity in terms of quality in South Africa and Congo; development of African region trade agreements such as Trans-Pacific Partnership (TPP), the Regional Comprehensive Economic Partnership (RCEP), and the Transatlantic Trade and Investment Partnership (TTIP) to boost trade and complement standards on agricultural products such as coffee; upgraded agricultural extension facilities from the government to back coffee production and marketing in Ethiopia (FAO, 2017; United Nations Development Program, 2017; Kenneth, 2016; Stoffelen 2016 & Berthaud, 2015).

Locally in Kenya, reforms of enhancing coffee production include; fairness in the marketing of coffee products; provision of finances to boost coffee development; reshuffle of cooperatives docket in the ministry of trade to deliver an empowering setting for the optimistic development of the coffee segment; organization of coffee segment into cooperatives to ease regulation and for development of the efficiency of coffee production (Kenneth, 2016; Export Processing Zones Authority, 2016). These amongst other developments have been implemented to boost coffee production in Kenya. Meru County which is located at the slopes of Mount Kenya comprises one of the major coffee production zones in Kenya. Under the Kenyan law individuals classified as smallholders, essentially small-scale coffee farmers are required to process and market their coffee through their respective cooperatives (Kenneth, 2016; Grisson & Guilla, 2014*).* Coffee cooperatives have brought together small-scale farmers and produced about 60% of the total production (Export Processing Zones Authority, 2016). This necessitated the need to study and know the whereabouts of coffee production through the co-operative societies in Meru County.

1.1.3 Overview of Coffee Production in Meru county Kenya

Meru County lies on the slope of Mt. Kenya and has a good climate for coffee production. Coffee is produced by small-scale farmers in Meru County whose majority are found in Imenti South, Meru central, Buuri, Igembe, and Tigania East sub-counties. These farmers produce three types of coffee which are Scott Labs (SL) 28, SL 34, Ruiru 11, and Batian (Coffee Board of Kenya, 2012). Coffee production in Meru County is usually done under primary co-operative societies in the locality which in turn joins to form giant Meru Co-operative Union. The smallholder coffee sector is organized into cooperatives to

facilitate regulation and to improve the effectiveness and efficiency of coffee production. Cap 490 laws of Kenya mandate coffee farmers to be part of a co-operative society (National Council for Law Reporting, 2012). This is to ensure that farmers can manage and market their produced coffee seeds as a group of many farmers through society to enhance economies of scale.

The public cooperative factories enable coffee to be processed cost-effectively by offering pulping storage and drying facilities to small scale-farmers (Grisson & Guilla, 2014). The private factories also exist in Meru County which is exclusively owned by estates and private holdings. However, most of the factories in this County are owned and operated by cooperatives. Cooperatives societies have many factories depending on land size and coffee production (Coffee Board of Kenya [CBK], 2012). According to a report by the International Coffee Organization (2019b), there were loud outcries from coffee farmers due to low return from coffee farming despite the presence of coffee cooperative societies. This motivated the research to study the coffee issues mostly in the Meru county region. Marete (2019) cited major issues facing coffee production in Meru County as poor quality of coffee production and low prices of coffee payout which moved some farmers to neglect their coffee farms and others turned to other subsistence farming. The researcher, therefore, analyzed strategies that could be used in reviving coffee production in Meru county by investigating land ownership, coffee financing, coffee pricing, and coffee governance.

1.2 Statement of the problem

Coffee is one of the most essential unindustrialized commodities in the world. In Kenya Coffee has untiringly played a key role in Kenya's economy due to its contribution to

foreign exchange earnings, family farm returns, employment creation, and food security (Silvarolla, 2014). Coffee farming has shown to be two to four times more effective in raising the incomes of the poor than non-agricultural activities (World Bank, 2009). The uses of new technology and innovation in coffee production have increased coffee production in various parts of the world. The coffee research institute has brought various innovative production methods which were disseminated to farmers through the use of agricultural extension officers. This raises strong corporate governance in various co-operative societies where coffee boards are established to provide key guidelines in regards to good production of coffee (Karanja, 2018).

Despite the desired benefits of coffee, there are lots of drawbacks facing the coffee production process such as poor payments made to coffee farmers. This is attributed to lack of financing, low pricing of coffee products, high cost of inputs, non-participation of women in resolution-making, poor communal supremacy at grower's institutions, poor governance, and poor quality of coffee seeds varieties (International Coffee Organization, 2019b). In 2016, coffee production dropped to 80,000 metric tons and production was below 35,000 metric tons (Kimenju, 2019). Globally the tendency is the same and this has called for concerted efforts by the coffee industry participants to seek communal redress of the problems that are making coffee production and trade unequal. The study keenly wished to look at land ownership, coffee financing, coffee market, and governance of coffee cooperative societies revivals in coffee production in Meru County.

The coffee price crisis was not only a recurring phenomenon; but also, a direct concern of the new structure of the market and strong competition from other players, which largely was worsening the problem for Kenyan coffee producers (Kenneth, 2016). Thus, the coffee

situation is very serious because, unlike other crops, the majority of coffee producers are small-scale holders living in isolated and dispersed rural areas, and who greatly depended on it for a living, pay school fees, settle healthcare bills and achieve other social-economic development (Karanja, 2018; Grisson & Guilla, 2014).

Most of the prior studies in the Kenyan coffee industry have concentrated on the strategic impact of liberalization of the coffee market in Kenya (Gilho, 2016), strategic problems facing multinational coffee-growing companies in Kenya, and the factors influencing the consumer prime of instant coffee varieties in Kenya (Danson & Lashermes, 2012). It was clear that investigations into appropriate strategies for reviving coffee production in Meru County were not covered in connection with this research gap, that the current study aimed to analyze strategies to revive coffee production in Meru County by specifically investigating land ownership issues, coffee financing, its market and governance of coffee's cooperative societies to assess their potentials in reviving coffee production in Meru County.

1.3 General objective

The general objective of this study was to analyze strategies for reviving coffee production in cooperative societies in Meru county Kenya.

1.4 Specific objectives

i. To examine the influence of land ownership on reviving coffee production in cooperative societies in Meru county Kenya.

ii. To determine the influence of coffee financing on reviving coffee production in cooperative societies in Meru county Kenya.

iii. To evaluate the influence of coffee pricing on reviving coffee production in cooperative societies in Meru county Kenya.

iv. To measure the influence of corporate governance of coffee cooperative societies on reviving coffee production in Meru county Kenya.

1.5 Research hypothesis

$H_0$1: Land ownership does not significantly influence reviving coffee production in cooperative societies in Meru county Kenya.

$H_0$2: Coffee financing does not significantly influence reviving coffee production in cooperative societies in Meru county Kenya.

$H_0$3: Coffee pricing does not significantly influence reviving coffee production in cooperative societies in Meru county Kenya.

$H_0$4: Corporate governance of coffee cooperative societies does not significantly influence reviving coffee production in cooperative societies in Meru county Kenya.

1.6 Significance of the study

This study was beneficial to leaders of coffee co-operative society's management because they would implement the recommendation in improving their coffee production. Farmers were the overall beneficially in yield and earning of coffee proceeds. Co-operative offices and government would enhance policy administration regarding co-operative societies and coffee regulations. Coffee donors would have tangible information in their

move to assist the coffee sector and potential coffee farmers would be motivated to engage their effort in coffee production.

The study was of importance to increase coffee knowledge in strengthening policies in the coffee sector. The management of coffee institutions would be able to revive coffee production thus making informed decisions which ultimately leads to better mileage national income and economic development. The scholars and Academicians were encouraged for continuous research to ascertain the actual situations rather than living on assumptions. This study also contributed new knowledge in the coffee sector especially in production, value addition, and marketing management.

1.7 Scope of Study

The scope of this study was limited to the strategies of enabling the revival of coffee production in the Mt. Kenya region, with a special focus on Meru County. It obtained information from coffee co-operative societies and coffee farmers in Meru County on key constructs that included land ownership issues, financing, pricing, and governance of on reviving coffee production. The study did not cover coffee production pests and diseases, coffee production technology, and coffee value addition.

1.8 Limitations of the study

Since the study gathered information partly from coffee farmers who according to the literature reviewed were mostly old-aged, they were not able to understand the English language. This meant that the use of English documented questionnaires on them would not be effective in capturing quality information. The study consulted research assistants

who helped the coffee farmers who did not understand the English language fill in the questionnaires.

1.9 Assumptions of the study

The assumption was that coffee co-operative societies had been active co-operatives for the last three years. It was assumed that a co-operative society that had operated for three years understood both challenges and opportunities that existed in coffee production hence able to effectively participate in the study.

1.10 Definition of operational terms

Coffee financing

Coffee financing was the procedure of the provision of money to support various coffee production activities such as payment of farmers (Descroix & Snoeck, 2019).

Coffee pricing

Coffee pricing was the process of valuing effectively a coffee product based on both economic factors such as inflation rate, policies, competitive alternatives, and intended consumers amongst other factors (ICO, 2019B).

Coffee production

Coffee production was the manufacturing procedure of changing fresh fruit of coffee plants into finished coffee that has an added value to intensify proceeds created from the coffee (Kimenju, 2019).

Co-operative societies

A co-operative society was a financial establishment that governs, finances, and markets amongst other obligations, the efforts of a group of individuals who are involved in agricultural activities (KCPTA, 2012).

Corporate governance

Corporate governance of cooperative societies was the system of administration through which a cooperative society operates and abided by the formulated rules that ensured accountability for consistency (ICO, 2019a).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed the existing literature concerning strategies used for reviving coffee production, such as land ownership, coffee financing, coffee pricing, and coffee governance. The theoretical framework was indicated followed by the conceptual framework as the operational framework ended the chapter.

2.2 Land ownership and revival of coffee production

Land ownership is the ability of an individual or a group of people to have the capacity in terms of attaining legal age and resources to acquire a piece of land either through buying, leasing, or inheritance (World Bank, 2013). The types of land ownership are sole ownership, joint tenancy, joint tenancy with rights of survivorship; tenancy in common, communal ownership, and corporation ownership (Willis, 2020). Sole ownership is where an individual owns a piece of land either from buying or gifts (Bryce, 2017). Joint tenancy is when two or more people own a price of land equally (Bryce, 2017). Joint tenancy with rights of survivorship is when two or more people own a piece of land and in case of death of one owner, next of kin from the deceased is given the right to own the land (Bryce, 2017).

Communal ownership is through inheritance as a result of marriage and is shared equally among the spouses. Corporation ownership is when an organization bought or got allocated a piece of land which was registered under the organization's name (Bryce,

2017). Indicators of land ownership include private title deeds, leasehold documents, community documents, and partial ownership document (National Council for Law Reporting, 2012b). Effective land ownership ought to be legal and economically valuable (Willis, 2020; Bryce, 2017).

The land is a vital capital in any production (World Coffee Research, 2017). Land production largely depends on who owned the land by having bought, rented, or wholly inherited (Kenneth, 2016). There is a large number of people who are capable and willing to farm produce yet they were limited by land capital (World Coffee Research, 2017). This huge number of people have made land ownership to recently become more competitive, making charges of production to go relatively high (Kenneth, 2016). Therefore, in making coffee farming decisions, an individual has to weigh and know how much their piece of land could produce (World Coffee Research, 2017). A coffee farmer is aware of the importance attached to coffee products cultivated on land. The more land owned by a farmer, the more coffee products they were able to produce hence improving the profitability of their venture (World Coffee Research, 2017). This is because coffee production is a major export commodity and the top legal agricultural export in numerous countries (Davis et al., 2012). A coffee farmer cultivates coffee on a small piece of land, a medium piece of land, and a large piece of land depending on their financial stability (World Coffee Research, 2017).

Nghiem et al., (2020) ascertained how coffee flourishment had influenced the livelihoods of people Northern Mountain province in Vietnam. Nghiem and colleagues noted that there was an agrarian change of land from normal house-hold food-crop based on sales-based agriculture where coffee flourishment had brought about livelihood

transformation (Nghiem et al., 2020). People were issued small plots of the land enforced by title deed certificates which was made a reality by the Vietnam government. The small plots of land were originally a forest to allow them to plant coffee.

The land, therefore, changed hands from being government-owned to individually owner to motivate coffee farming which was highly regulated by the government through cooperative societies. This gave homes the freedom to decide on planting coffee for sale which gave them revenue and as well as farm food for consumption (Nghiem et al., 2020). More cooperative societies were formed who apart from the marketing of coffee products, provided inputs such as hybrid coffee seedlings and training on how to farm coffee. Coffee farming substituted one crop production to different crop production usage of lands. Despite the study indicating the group of people being issued the plots, it skipped on the criteria used to allocate the land to people. Nghiem et al., (2020) also used the quota sampling method which was known to experience short-comings of the researcher's biasness in depicting intended results (Kabir, 2016). The current study sought to understand whether different forms of land ownership structures by coffee farmers in Meru county Kenya had any influence on reviving coffee production.

United States Agency International Development (2019) reported the purpose of women-led trades in southeast Asia's coffee price chains sought to analyze women's contribution and prospects for development in coffee price chains in Cambodia, Indonesia, and the Philippines. The study found that as a result of profits in real estate, many coffee landowners were selling off their land causing a decline in coffee-growing areas and an upsurge of deforestation in Cambodia, the Philippines, and Indonesia. Measures such as the formation of more cooperative societies to encourage more profitability as a result of

collective bargaining, gender-based land owing right laws were enacted and tenure security of land enhanced. Enhancement of tenure security of land enabled individuals to freely choose how to use their lands, what to plant, and transfer when they see it reasonable. Indonesia women who were not allowed to own land or even join cooperative societies by customs were now allowed by the new land laws. Also, women were allowed to be part of cooperative societies' leadership in the management. This made them have title deeds that have their names rather than their husband's name. The current study aimed at knowing land ownership structures that exist in Meru county Kenya and also the participation of women in cooperative societies to ascertain how this initiative could boost coffee production.

A corporation called green gold cooperative made progress when it exported its first shipment to the European market (United Nations, 2018). The review documented by the United Nations in 2018 also indicated that coffee farmers who were members in that corporative society had ownership certificates where gender equality has been maintained. A mention of the types of ownership certificates was not given in this study. How an ownership structure stated affected a lot the kind of effort put of coffee production. For example, if ownership was a lease type, there would be no inheritance extended to the kin, hence the family support may be limited. According to the United Nations (2018), cooperative societies had enabled people to acquire land by buying land for them than divided the land into plots payable by installments. The cooperative societies also linked coffee farmers to government institutions where they would get farm inputs and coffee seedlings. This motivated the coffee farmers to engage in quality coffee production hugely.

There was, therefore, a need to know the benefits that coffee farmers had gotten from their cooperative societies especially in Meru county Kenya concerning land ownership.

Baker (2014) gave a very fascinating finding. While reviewing the global production of coffee and alteration in the utilization of land, Baker identified Brazil's massive coffee production was as a result of the adoption of technology and the formation of many cooperative societies whose main responsibility was to sell coffee products in both domestic and international coffee markets. Brazil adopted strategies such as plantation of hybrid varieties such as Arabica and Robusta coffee seedlings majorly in their coffee farms; and there was widespread training on modern coffee production methods by cooperative societies to coffee farmers. Baker (2014) discovered that the most of other nations got new coffee lands from cutting down forests but did not narrow down on how the government policies had factored in since a lot of governments are emphasizing the planting of trees to reduce global warming.

That notwithstanding, Baker's (2014) results were from estimated secondary official data which had a lot of contradictions and some data even lacking facts on deforested land. There was a need to establish the types of land ownership in Meru county especially the ones related to coffee farmers. This was because most lands in Meru county were scarce and did not have persona title deeds but rather communal titles (family title deeds) (Meru county, 2019). International Environmental Law Research Centre (2010) indicated that an individual found it hard to develop an ancestral land in Kenya due to a lack of ownership. This case applied to a coffee farmer who produced coffee in this type of land has limited access to credit because the land had not yet been adjudicated to them.

Lyon et al. (2018) examined how gender equality applied to female coffee farmers in Mexico. Their study aimed among other factors to understanding how Mexican Fairtrade, an organic producer cooperative society firm had implemented gender equality inventiveness. Lyon's study established that there were gender equality improvements where the number of women owning land titles to farm coffee; improvements on the number of women in leadership in the firm to aid in decision making especially on attaining more land for coffee production. Nevertheless, another report by the International Coffee Organization (2019a) disagreed with Lyon et al. (2018) where they indicated that, culturally, women were inhibited from owning land in most developing nations. This study also inquired how many land pieces were owned by women, the challenges faced, and whether that had any influence on coffee production in Meru county Kenya.

In developing nations such as Africa, the African Development Bank Group [AfDB] (2017) did a study on Africa's coffee status, challenges, and growth opportunities. [AfDB] (2017) noted that there was a decline in land under coffee production in Africa which was causing a decline in the produce. Briefly describing a synopsis of what may have affected this decline in land for cultivation, [AfDB] (2017) indicated that there was a price decline in the 1990s to 2010 where the land became the opportunity cost. That was, coffee farmers have forgone using their land to plant coffee trees and used it to plant other agricultural produce and also selling it for purposes of real estate development. This meant that people, who own huge pieces of land, were now reduced to owning plots of land as a result of selling. The ownership gradually changed hands from then and that greatly was hampering coffee production capacity in many African nations. This indeed gave a gap to hear coffee

farmers' side of the story on how a change of ownership of huge pieces to plots has affected coffee production in Meru County.

The size and ownership of the land mattered a lot when a coffee farmer chose to join a co-operative society (Balgah, 2018). Balgah (2018) came to this conclusion after considering farmers. Other factors that were indicated by (Balgah, 2018) as having an impact on farmer's choice in northwest farmers in Cameroon were the main source of revenue, the size of the homestead, coffee farming experience, and if there were timely payments by cooperative societies. Balogh's study considered non-coffee farmers as respondents of the questionnaires as long as they were in contact with the cooperatives. The study results therefore could be not guaranteed and trusted because a non-coffee farmer did not understand the challenges of coffee farming. This created a gap to establish what factors affected Meru coffee farmers to join their cooperative societies if they were members.

European Union report in 2018 on the coffee value chain analysis in the southern highlands of Tanzania, ascertained that different types of farm size played a significant part in coffee that was produced. Small farmers who had at most 8 acres had a variety of produce from 0.24 tons to 0.75 tons per acre but medium farms who had at most 20 acres and large farmers who had more than 20 acres did not variate a lot in their coffee production numbers. This meant that many small coffee farmers were struggling with producing quality coffee in their lands. Medium and large farmers had already inputs to ensure steady quality production of coffee since on average they produced 5.6 tons and 21.6 tons of clean coffee respectively annually. European Union (2018) also established that though small farmers

had low coffee produce quality issues, having processing facilities saved a lot on their transportation costs.

There was an emphasis that coffee production could be more profitable when small farmers joined hands and practiced economies of scale rather than produce coffee individually. The current study was set to know how different coffee farmers were categorized and if there was any influence in their coffee production ability. This study also established the benefits of having cooperatives societies towards the value addition of coffee products such as wet processing.

In Uganda, the common form of land ownership was commonly landlord owned where individuals leased for a small fee to farm coffee (International Coffee Organization, 2019c). The International Coffee Organization (2019c) on coffee profile in Uganda, the emphasis was being put on allowing women to participate in coffee farming through a strategy called gender household approach through which women got coffee seedlings to plant. This was however lowly practices in Mukono and Buikwe areas. There was a gap to know what form of land ownership was owned by coffee farmers in Meru county Kenya and whether that had any influence on their production capacity.

International Coffee Organization [ICO] (2019b) did a review of the coffee profile in Kenya. The report identified coffee-growing areas such as the ones located within the Western, Rift Valley, Central Kenya, and Mt Kenya regions. ICO (2019b) noted that coffee was grown in the high potential areas between 1,400 and 2,200 meters above sea level, with temperature ranging from 15 to 24° Celsius, in red volcanic soils that are deep and well-drained. Kenya coffee was produced under two systems, comprising smallholder

farmers affiliated to co-operative societies and coffee estates, which were individual, managed coffee plantations (ICO, 2019b).

ICO (2019b) indicated that most Kenyan coffees were grown without shade, although shaded coffee was becoming increasingly popular to mitigate the effects of climate change. However, no attempt was made to quantify the area under shade. Research had been ongoing to determine the appropriate shade trees. There was also training done on how to plant per hectare of traditional coffee varieties with a spacing of 2.74m x 2.74m to have about 1,350 bushes, while the plant population of R11 spaced at 2m by 2m is 2500. This gave assurance of national average coffee yield estimated at 302kg/ha, whereas the average yield in the estate sector was 556 kg/ha (ICO, 2019b). This revelation depicted that when coffee farmers were trained on how to plant coffee trees, they got a rough idea of the expected yield. If a coffee farmer wanted to more yield, they tended to look for an additional piece of land to achieve their objective, since they were more aware of the maximum yield their land can produce and in the long-run develop coffee farming (Food and Agriculture Organization, 2015). This created a concern to know the kind of coffee farming training offered in Meru county and whether these training had an impact on coffee farmers acquiring more land to plant coffee trees hence reviving coffee production.

In Meru county, Hakizimana et al. (2017) used small, medium, and large-scale models to understand the precepts of land and farming commercialization. Hakizimana established that there were growing land merging activities prompted by the increasing class of commercial coffee farmers. The study also found out that there was land disintegration due to an increase in population and the occurrence of inheritance as a trail to land attainment.

Hakizimana et al. (2017) recommended that farmers to diversify their sources of income and not rely on coffee production to be able to plow back some income to more coffee production; adoption of new and modern techniques of coffee farming; use of inputs such as fertilizers to improve on the productivity of coffee tree; and use hybrid seedlings such as Arabica coffee seedlings which had proven effectivity in nations such as Ethiopia and Brazil. The choice of mixed approaches used had made it difficult especially when there was unequal evidence in a study. The current study, therefore, used a descriptive research method when applying questionnaires to allow levelness in results.

2.3 Coffee financing and revival of coffee production

Coffee financing is the procedure of provision of money to support various coffee production activities such as payment of farmers, seedling, machinery, weeding, and others (Descroix & Snoeck, 2019). The types of coffee financing are coffee establishment loans, coffee inputs financing, and coffee machinery financing, coffee climate financing, installment loans (Specialty Coffee Association, 2018; Kamakia, 2016; World Bank, 2015). Coffee establishment loans are a form of personal credit advanced by a financial institution to coffee farmers (Kamakia, 2016). Coffee inputs financing is a type of financing where a financial institution provided money for the purchase of inputs such as fertilizers and chemicals among others (Kamakia, 2016). Coffee machinery financing is an asset financing option where a financial institution gave collectively to cooperative societies to buy coffee harvesting machines and other machines related to coffee planting (Kamakia, 2016). Coffee climate financing is funds issued to cater for adaptation actions that addressed climate change (Specialty Coffee Association, 2018). Installment loans are the

types of financing issued to a farmer to repay on periodic payments (Specialty Coffee Association, 2018).

All types of coffee financing modes were considered in this study. Indicators of coffee financing in a coffee society include issued loan values, paid loan values, defaulted loan values, and cost of loans (National Treasury and Planning-Kenya, 2018; World Bank, 2017). The issued loan value is loans that had already been disbursed to coffee farmers (World Bank, 2017). The paid loan value is the loans that are disbursed and coffee farmers have paid their monthly installments in full (World Bank, 2017). The defaulted loan value is the loans whose coffee farmers did not pay in full (World Bank, 2017). The cost of a loan is the total expenses incurred on loan issued to coffee farmers (World Bank, 2017). An effective coffee financing structure is therefore cost-effective and reliable to fulfill the economies of scale on investment.

Columbia Center for Sustainable Investment (2019) on safeguarding financial profitability and dependability of coffee production shed light that there was Global Coffee Fund (GCF) set aside to help the developing nations that participated in coffee production and export. Funding from the GCF, together with matching government funds and individual corporation investments in their supply chains, intended to seal the main dependability funding needs in the global coffee sector. These financing options helped cooperative societies globally pay on time coffee farmers; buy seedlings that were distributed to coffee farmers; invested in research of new hybrid varieties and facilitated more training to farmers on proper coffee production. This study, therefore, established other forms of government funds, or individual corporations' investments were utilized by cooperatives societies to revitalize coffee production in Meru County.

According to the Global Agricultural Informational Network [GAIN] (2019c), Nicaragua coffee sector in Central America was at its worst due to low coffee prices and lack of credit facilities. GAIN indicated that approaches made to improve that included lowering interest rates to coffee farmers; establishing cooperative societies that would offer collective bargaining on behalf of farmers; and established agricultural financial institutions. When coffee farming was not well funded the output became low. Considering a report by the global coffee platform, in 2016, the reason why Brazil remained the top coffee producing nation was that there were efforts made to back coffee farming such as research, extension services, and majorly financing. There was therefore need to gather information on what measures and steps the government of Kenya had taken towards improving financing coffee farming through cooperative societies. A survey of coffee financing measures that were undertaken by other countries to revitalize coffee production helped to shed more light and was also very significant in the identification of pertinent research issues as discussed.

Sherfey (2019) investigated the cost of economically maintainable coffee production and found that coffee farmers in Chiapas, Mexico, Peru, Colombia, and Honduras depended so much on coffee input financing and coffee credit to produce coffee effectively. This dependence became a burden once coffee products fetched low prices when sold through cooperatives. This fact was supported by innovations for poverty actions in the 2017 report which documented that premeditated nonpayment was a prevalent delinquent in this coffee market. To curb this trend, the report suggested that cooperative societies partnership meaningfully alleviated the chances of defaulting.

Innovations for poverty actions (2017) ascertained that financing accessibility was a noteworthy challenge not only to small coffee organizations but also to moderately coffee organizations. The report noted these concerns when it considered 24 emerging nations such as Peru, Mexico, Nicaragua, Rwanda, and Guatemala taking the highest number of loans. This study ascertained if there were any cases of premeditated nonpayment by coffee farmers or cooperative societies and ascertain if that was affecting in any way the reviving coffee of production in cooperative societies in Meru county Kenya.

Specialty Coffee Association [SCA] (2018) documented a report on brewing up climate resilience in the coffee sector. In the report, financing adaptation approaches such as alternative sources of investment that were used by farmers, plantations, and producers were considered. SCA (2018) confirmed that credit issuances were low globally remaining below 0.2 percent; only 4 percent of the expected 463 billion dollars of climate finance had reached the coffee farmers, and just 22 percent of the entire 463 billion dollars had been dedicated to the agricultural sector. This meant that coffee financing remained low and the problem of low quality and volume coffee production would not go away soon. This created a gap to assess other alternatives that cooperative societies and coffee farmers in Meru County had come up with that generated financing to boost coffee farming activities.

Folch and Planas (2019) reviewed the cooperation, fair trade, and the development of organic coffee growing in Chiapas, Mexican state neighboring Guatemala. Folch and Planas (2019) brought in the alternative of growing organic coffee as an economic alternative for small scale farmers. Organic coffee farming was a technique that utilized natural inputs such as manure to replace fertilizers use hence low reliance and expectancy of coffee financing. However, the trivial size of land, low usage of machinery, and weighty

need on outside mechanical and financial backing are also shared structures of cooperatives in Western republics in America. The current study looked at the Kenyan cooperative societies especially in Meru County to see whether the problems were mutual.

United Nations Conference on Trade and Development [UNCTAD] (2018) while reviewing some of the concerns of coffee in East Africa, amongst other reasons, gave some coffee financing menaces affecting coffee production. UNCTAD (2018) indicated issues surrounding poor access to financing; lack of investment in production, processing, and marketing capacities from both private and public entities; high production costs with low financing were affecting coffee production. These problems affected East African nations such as Burundi, Ethiopia, and Kenya as well. This gave this study a chance to look at the Kenyan perspective on how detrimental coffee financing issues had trickled down to cooperative societies and coffee farmers particularly in Meru County in the long-run.

Kaura et al. (2016) confirmed that coffee farmers in Kenya were not able to use production inputs due to the insufficiency of capital and this defiantly negatively affected the quality of coffee produced. According to Kaura et al. (2016), coffee farmers in the Kangundo sub-county, Machakos county, Kenya, had issues such as lack of security to access loans; lack of guarantors; high-interest loans challenge; and low financial background to qualify for a loan. Kaura et al. (2016) used questionnaires that were administered to respondents through the face-to-face method. This method of administering was very time-consuming especially now that they had to apply it to 370 coffee farmers. The current study used to drop and pick a later method of questionnaire administration to coffee farmers through cooperative societies.

Another study was done by Songa and Cheluget (2016) in Machakos on the financing of coffee production cited challenges that farmers faced in accessing bank credit. They included: lack of security; high-interest rates; bureaucracy and accessibility to financial firms; unfavorable policies and measures directed towards sorting precise financing requirements of coffee.

Khusoko (2020) indicated that Kenya Planters Co-operative Union (KPCU) received KSh2.7 billion from the National Treasury of Kenya for advancing to coffee farmers which were part of the KSh 3 billion coffee fund. Coffee farmers accessed credit and repay with 3 percent interest. This was seen as a remarkable move to boot coffee farming especially in the purchase of inputs. Besides, the Kenyan government had plans to establish and finance a coffee research institute that added value to the already deteriorating coffee product quality. This revelation provided insights for assessing coffee funding matters in cooperative societies in Meru County, Kenya.

A review by Sacco Times in 2020 indicated that Baragwi farmers' co-operative gained largely out of 2019 coffee sales stake in Kirinyaga, county Kenya. Sacco times (2020) depicted that lack of financing remained a challenge among coffee farmers where they were unable to access credit to purchase inputs. This created a need to establish the performance of cooperative societies on 2019 sales of coffee products and whether that benefits the farmer in any way.

2.4 Coffee pricing and revival of coffee production

Coffee pricing is the process of valuing effectively a coffee product based on both economic factors such as inflation rate, policies, competitive alternatives, and intended

consumers amongst other factors (ICO, 2019b). The types of coffee pricing are coffee premium pricing, penetration pricing, skimming pricing, bundle pricing, geographical pricing (Gituma, 2017; Aderian et al., 2016; Bingqun, et al., 2016). Coffee premium pricing is selling coffee products at a higher price more than other coffee-producing competitors with a connotation of more superior quality than them (Gituma, 2017; Aderian et al., 2016). Coffee penetration pricing is selling coffee products at a lower price than other coffee-producing competitors in a new market (Bingqun, et al., 2016). Coffee skimming pricing is selling coffee products at a high price because of a noteworthy competitive advantage before other coffee-producing entities begin producing such kind similar coffee products (Gituma, 2017).

Coffee bundle pricing is selling two different sizes or types of coffee products as one (Gituma, 2017). For example, selling one kilogram of coffee beans added with 250 grams of the final coffee packet at a particular price. Coffee geographical pricing is the selling coffee products at different prices depending on the location where they were being sold (Aderian et al., 2016; Bingqun, et al., 2016). Indicators of coffee pricing in a corporative society are coffee market share, coffee products sales volume, coffee products customer numbers, and coffee productivity volume (Njomo & Margaret, 2016). An effective coffee pricing structure is profitable and cost-effective for the coffee cooperative society (Njomo & Margaret, 2016).

Globally, according to the International Coffee Organization (2019d), overproduction led to price deterioration. For two years, there was an oversupply of 8 million 60 kgs bags which could be translated to 5% global production. In as much as consumption which determined the demand level was improving, the supply level was still

high. ICO (2019d) further depicted that loss of value due to foreign exchange risks in a producing country reduced its competitiveness compared to other coffee producing countries whose currencies were not exposed to foreign exchange risks. This eventually caused countries whose currencies had not been exposed to foreign exchange risks to overproduce coffee because of higher foreign exchange advantage. In the long run, this led to price instability globally; growing expenses for processing, selling, and delivering in buyer nations had been decreasing the farmer's share on coffee selling price. The current study addressed how coffee farmers and cooperative societies became innovative towards improving coffee pricing with an aim to reviving coffee production in Meru county Kenya.

Food and Agriculture Organization [FAO], (2018) confirmed also that coffee prices were deteriorating globally. The report that was documented to address the depressed international coffee prices, gave reasons as to why this was happening. FAO (2018) stated that swift development of production volume in the chief producing republics; slow development of universal consumption particularly in advanced republics; poor technical developments in coffee processing; excess market control by the main coffee roasters; and absence of variation for substitutes for small scale producers, were some of the reasons for price deterioration.

In Vietnam, Anh and Bokelmann (2019) surveyed the causes of small-scale farmers' market preferences. The study established that factors such as price ambiguity, market rivalry, carriage charges, swiftness of payment, and sale capacity were market contracts that noteworthy influenced farmers' market preference. Coffee farmers preferred markets that priced coffee products based on value and also competition with other coffee producers (Anh &Bokelmann, 2019). The study only relied on small scale farmers and not

large-scale farmers to get information. The study did not indicate what characterized small-scale farmers causing ambiguity since small-scale farming was measured differently in diverse nations. This created a gap to assess not only small-scale coffee farmers but also large-scale coffee farmers since all farmers were being affected by the menace of price deterioration in coffee production. This was possible in the current study because coffee selling in Kenya was largely through cooperatives societies. There was a need to establish what the coffee farmers market preferences in Meru county Kenya were in this study.

Arango-Aramburo et al. (2019) while considering the decision-making on investments by coffee farmers in Columbia, established that there was a positive relationship between coffee prices and investments. Interestingly, Arango-Aramburo et al., (2019) noted that this connection is inclined when financial institutions become weaker. This was because accessing credit had become challenging and consideration of saving was considered unachievable due to low incomes from coffee farming. Since coffee prices were not always low, the period when prices were high, coffee farmers invested in alternatives that generated more income in the future. Arango-Aramburo et al. (2019) advised that coffee cooperative societies should price their coffee using a cost-based approach so that when coffee was sold, it covered the costs incurred to produce it. This revelation gave a speck of light on how to handle the low coffee prices problem. This study enquired from coffee farmers what other sources of investments they had considered to act as back-up in scenarios when coffee prices were low in Meru-county Kenya.

Ssenkaaba (2019) examined the influence of supply and demand shifts and noted that both demand and supply for coffee beans change significantly between stages, with the international typical yearly supply change as 0.99% and international typical yearly

demand change as 3.19%. Much of the change in supply varied often between positive and negative changes, suggesting an upsurge and reduction in supply correspondingly, whereas much of the changes in demand were mostly constructive suggesting demand development over a similar stage. Since both supply and demand were non-constant over time, value and cost-based pricing approaches elucidated the constant variations in coffee bean prices. There was a need to evaluate how demand and supply changes on coffee beans affected prices in cooperative societies in Meru county Kenya.

The assessment of the performance of coffee production in Eastern and Southern African nations, (Nsabimana and Tirkaso, 2020) gave insights on how Common Market in Eastern and Southern Africa (COMESA) and East African Community (EAC) nations could curb the low coffee price aspect which was affecting their potential production. These nations according to Nsabimana and Tirkaso (2020), engaged in regional trade contracts which affected a vivacious purpose in collective coffee trading in East and Southern African republics. For example, an exporting republic upsurged their coffee trade prices by 80% and by 182% if the country was a COMESA and EAC member nation. The difference in the scale of the two approximations was related to market incorporation in the EAC being comparatively higher than COMESA (COMESA 2009; EAC 2014).

The study by Mohan et al. (2016) complained that the wellbeing advantage gotten after eliminating coffee price instability in Ethiopia is very small. Ethiopia being an acknowledged global coffee producer, felt the pinch emanating from coffee price instability. Mohan et al., (2016) admitted that in Ethiopia, any effort to eradicate coffee price instability at a charge was not an ideal conclusion for Ethiopian coffee producers.

This gave rise to the need to look at Meru farmers' opinion if they would choose to incur excess charges as an effort to eradicate coffee price instability.

Coffee prices in Kenya were not stable in Kenya due to the low quality of coffee production (Nairobi Coffee Exchange [NCE], (2019a). A review made by [NCE] (2019a), on coffee auctions continue on a fortnightly schedule, indicated that auctions were failing because of low volumes produced by quality coffee farmers in Kenya. This made several auctions to be rescheduled since there was no enough volume to trade. As a consequence of that, the prices of the present coffee volumes increased slightly due to the demand for auction. In support of this another review by (NCE, 2019b), pinpointed that a 50kilogram coffee beans bag cost Kshs 8,800 higher than Kshs, 7700 all due to improvement in the quality of the coffee. Low quality added with miserable global prices of the coffee has been bashing down the price of coffee. Kenya consumed 5 percent of the coffee produced and exported the rest. That meant that it was not able to sell coffee products massively from local perspectives. Incase international coffee market prices became volatile; it was at a higher risk of huge losses. This created a gap to know the measures cooperative societies in Meru had put into place to improve local sales through effective pricing of coffee products.

Global Coffee Platform [GCP] (2016b) carried a survey that aimed to address national investment agendas on a continental scale, where Kenya was a case study. [GCP] (2016) identified factors affecting low prices such as volatile production volumes, little domestic consumption; lag in the share of certified sustainable supply; high production costs due to negative economies of scale to small scale coffee farmers; and low inputs used by coffee farmers; poverty. The report agreed that the coffee segment was in decline and

required farmers to seek investment through their cooperative societies from both private and public sectors to revive it.

Okech (2019) recognized that the main element of the financial profits gotten by coffee farmers are based on the effectiveness of the cooperatives they form to ease the production and marketing of coffee products. The study however collected data from only small-scale farmers and not any other types of coffee farmers such as medium and large farmers. The results could be interpreted as representing the opinion of small-scale coffee farmers and not all coffee farmers.

2.5 Corporate governance of cooperative societies on reviving coffee production

Corporate governance of SACCOs in the system of administration through which a Sacco operated and abided by the formulated rules that ensured accountability and transparency for consistency and prudence in management (ICO, 2019a). The types of corporate governance of coffee cooperative societies are the board of directors; members contribution; internal controller to ensure risk is managed; audit committee to ensure there is no embezzlement of funds; management to run the daily financial operations of the cooperative society; and regulators to ensure the laws are followed (Macharia & Genga, 2019).

Indicators of corporate governance are strong management and oversight; effective composition of the board, ethical and responsible decision making, integrity in financial reporting, timely and balanced disclosures of public information, respect the rights of shareholders, recognition, and management of risk, fair and responsible remuneration (Wesfarmers, 2019; Havard Law school, 2016). An effective corporate governance structure, therefore, encourages open and well-organized markets; subjective to the rule of

law and shows different tasks that diverse managerial, monitoring and implementation personnel played (The Institute of Company Secretaries of India, 2019; Challenger Limited, 2018).

A report that was drafted by the International Trade Center [ITC] (2018) on the state of sustainable markets indicated that a program called voluntary sustainability standard program was ensuring cooperate governance in the global coffee industry. That was done through the openness of refining supply chains transversely in the coffee market. According to ITC (2018), the coffee industry had effectively been at the forefront of adhering to the voluntary sustainability standard program. Firms that utilized coffee beans in making coffee products were now keen to ensure that they buy only certified coffee beans. In this study, there was a reason to understand what cooperative societies' management was doing to ensure they certified their coffee beans to maximize shareholder's wealth. That was through profits on behalf of coffee farmers.

United Nations Development Program (2016) said that producer organizations would provide an important avenue for democratic, equitable representation, and infrastructure development. This indicated that the relative isolation of many small coffee farmers based on gender and education qualification often placed prohibitively high transaction costs on effective participation in such organizations. That was, a coffee farmer could not have a high-level education but could possess other personal aptitudes in coffee production that would use to improve coffee production. The management ought to always take note of the creativity of farmers towards coffee production contributions. This study assessed measures put into place by cooperative societies' management to ensure the participation of coffee farmers in coffee production contributions.

Ismael and Roberts (2018) studied issues distressing the intended use of internal audits in the United Kingdom. They observed that the internal auditors played a very important function in enhancing the risk assessment of the organizations and internal control practices. Internal auditor competence was key in the evaluation of controls or risk assessment of the organization. This helped in arresting financial problems in the organization. One key area was in the evaluation of the elements of the financial statements. The internal auditor had the accounting knowledge to interpret and question the entries in different ledgers of the company trial balance (Wambui, 2019). There was a need to know if there were any audit personnel in cooperative societies in Meru county and what part they played in corporate governance of Meru cooperative societies on reviving coffee production.

Drogalas and Pazarskis (2017) did a study on the vital purpose of internal audit and management towards the acuities about effective risk management. Drogalas and Pazarskis (2017) had observed that there was an absence of empirical research on factors that affect risk management in companies located in Greece and listed in the Athens exchange. Observations were made that risk-based internal audit involvement in top management support influenced corporate governance positively.

Sengere (2016) noted that the coffee industry had declined steadily in the New Guinea coffee industry from the 1990s and hence wanted to know the causal aspects of the social, economic, and political phenomenon. According to Sengere (2016), amongst other reasons, poor leadership in the coffee industry played a major role in the decline. Other factors were the absence of partnerships, land disagreements, deprived extension services,

policy fiascos, disorder, and unfortunate quality and deteriorating countryside infrastructure.

Sengere (2016) gave strategies such as appropriate management and power in cooperatives; open leadership; careful administration of the firm's incomes; and venturing in diverse regions. The singer further asserted that managers sought aptitude ability on-farm and asset administration for proper application of economies of scale. The current study assessed the kind of leadership strategies applied by the management of cooperative societies in Meru County.

A policy review made by Sambuo and Msaki (2019) indicated that Tanzania did not have an oversight institution of co-operatives. This oversight institution acted as a cooperatives court to evaluate wrongdoing, prerogatives, giving rulings, issuing tribunal dates, and listening to disagreements (Sambuo & Msaki, 2019). Sambuo and Msaki (2019) observed that there was an inadequate capacity structure of the Cooperative institutions in Kilimanjaro, Mwanza, Mbeya, and Tabora. The current study sought to address the impact of the coffee board of Kenya which was the oversight institution to cooperative societies in Meru County.

A framework rolled out by the National Planning Authority of Uganda in 2018, on how cooperatives would be made robust for social-economic renovation, gave various recommendations on how to achieve that. These recommendations were employing competent accountants; development of socially entrenched independent cooperatives with a common resolution of having answerable and responsible leadership. Also, primary societies were to be allowed to purchase their inputs from or sell their produce to those

sources which provide the best service and best prices. There was an enhancement of networking of various cooperatives; diversification to various agricultural ventures to avoid depending on one commodity; and not taxing cooperatives bonuses and dividends paid to farmers amongst others.

Macharia and Genga (2019) argued that farmers' participation in management was a significant determinant of performance. They opined that when coffee farmers were involved in cooperative societies' decision making, they tended to have more confidence in these cooperative societies. This eventually led to coffee farmers releasing their quality coffee produce in large volumes which when sold, led to improved performance in the cooperative societies.

Kenani and Bett (2019) found out that board structure, the board size, education aptitudes of board members, and gender balance influenced the performance of a cooperative society in Kisii county, Kenya. Kenani and Bett (2019) indicated that they used the descriptive census survey method which ensured that all the population was counted. The study however had a mix-up because they again indicated that they applied stratified random sampling to sample the population to have a population of 30 respondents. The current study studied all coffee cooperative societies in Meru County to assess the board structure, board size, education aptitudes of board members, and gender balance composition of cooperative societies' influence towards reviving coffee production.

Summary of the research gaps

The literature reviewed indicated that there was massive coffee production as a result of new coffee lands from cutting down forests. However, the literature reviewed failed to

give convincing insights on approaches made towards handling various land ownership factors hence necessitating this study. These factors were related to negative cultural practices inhabiting women to own land; poor payments to coffee farmers; land disintegration due to an increase in population; and occurrence of inheritance as a trail to land attainment.

In coffee financing, unsatisfactory approaches made gave this study a concern for review on various aspects. These aspects were credit issuance status; other funding alternatives present apart from the common ones reviewed; impacts of unnecessary bureaucracy in cooperative societies; after-effects of poor payments made to coffee farmers; the level of skills required on the usage of machinery, unfavorable policies and measures directed towards sorting precise financing requirements of coffee; availability of collateral and guarantors to access loans; interest rates; and low financial background to qualify for a loan by farmers.

The literature reviewed on coffee pricing weakly addressed various approaches made to revive coffee production. This weak coverage left various gaps in areas related to throw away prices to overproduced coffee; foreign exchange risk influence on coffee products prices; the decline on the farmer's market share due to expansive charges incurred on the processing of coffee; lag on mechanization causing chief producing republics had a competitive edge; price ambiguity; tough market rivalry; slothful swiftness of payment on market contracts negatively influencing farmers' market preference; low quality effect on the price of coffee; and poor domestic coffee market.

Prior studies done on corporate governance of cooperative societies left more questions than answers towards reviving coffee production. Questions raised through the current study were lingering on aptitude levels of management of cooperative societies such as accountants; the deteriorating impact of the dependence of only one type of commodity; types of high taxes charged on dividends and bonuses issued to farmers; poor networking done by cooperative societies; absence of coffee farmer participation and contribution in management; absence of partnerships; the inadequate capacity structure of the cooperative societies and policy fiascos.

2.6 Theoretical Framework

This study was guided by three theories; entitlement theory, stakeholder theory, and agency theory. Entitlement theory-guided inquiries into land ownership, stakeholder theory-guided inquiries into both coffee financing and marketing, while agency theory-guided inquiries into corporate governance.

2.6.1 Entitlement theory

Land ownership was guided by the entitlement theory. Entitlement theory was exposited by Robert Nozick in 1974 (Nozick, 1974). It stated that individuals were signified as ends in themselves and contemporaries, nevertheless, individuals were allowed to own diverse expanses of belongings. Concerning this study, there was no limit on how much land both cooperative societies and farmers could have as long as they had owned it legally. On the one hand, small, medium, and large coffee farmers who worked hard in producing coffee and wished to add more pieces of land were free to do so as long as they followed the right procedure of acquiring land. If on the other hand, small, medium, and

large coffee farmers wanted to sell off their land, they were permitted to do so as long as they followed the law.

Entitlement theory described how a robust structure of private belongings that had been acquired fairly looked like and effected in a free market economy. The main advocacy in entitlement theory was having a just structure of owning properties. Nozick (1974) explained further that a just structure was voluntary. Entitlement theory was adopted in this study because as the reviewed literature indicated, land ownership was undergoing an evolution. As the population has been growing and alternative uses of land such as real estate were developing, the competition for land ownership was inevitable. This led to different coffee farmers either buying more land as individuals, groups of people, and families hence getting legal entitlement of land. Some coffee farmers who did not afford to buy land were taking advantage of cooperative society's idle land and planting coffee plantations to earn income. All these were measures used by coffee farmers to progress coffee production in Kenya. Entitlement theory was also adopted by (Nghiem, 2020).

Entitlement theory was heavily criticized because of the principle of voluntarist it held. Entitlement theory discouraged strongly the rich to be more taxed than the poor to support social programs for the poor individuals (Fennell, 1994). Nozick (1974) termed taxation of the rich as unjust since it was not voluntary. This indicated the need for parity while taxing both the rich and the poor based on the land rates. This critique did not affect the current study because land rates were paid based on how large the piece of land was and not how rich one was based on other factors such as income levels.

2.6.2 Stakeholder Theory

Stakeholder theory-guided coffee financing and coffee marketing variables in this study. It was developed by Ed Freeman 1980s and supported again in 2018 by Freeman, Harrison, and Zyglidopoulos. Stakeholder theory stated that a firm was managed for the benefits of all its shareholders. These interests included not only those of the shareholder but also a range of other direct and indirect interests. The argument that was repeatedly raised against a stakeholder view of the firm was that it was hard to operationalize because of the difficulties of deciding what weight was given to different stakeholder interests. Stakeholder theory, therefore, suggested the practical value of accountability to shareholders even if the board took other interests into account in its conduct of a firm.

Stakeholder theory was adapted to coffee financing and coffee marketing because it was the mandate of cooperative societies to always have the best interests of financing and marketing functions on behalf of the farmer for improvement of coffee production performance. Cooperative societies had a decree to deliver quality services and maintain good profitability of shareholder's wealth who were the farmers in coffee production. Creativity was needed in cooperative societies' on how they ran their operations, who they approached for marketing purposes, and ensuring their coffee members got information about various financing institutions to access finances. All these enabled farmers' interests in accessing financing and good prices were fetched for their products. Stakeholder theory was adopted in related studies by (Gituma, 2017; Drogalas & Pazarskis, 2017).

Stakeholder theory was heavily criticized by Key in 1999 who felt that stakeholder theory was void, lacked specificity, and offered an impracticable opinion of how firms functioned. This explained further showed that in a real sense, coffee farmers did not act

like owners but rather the servants of cooperative societies. This did not affect this study since the main concentration was on how each party both the farmers and cooperatives societies played their part to revive coffee production in Meru county Kenya and not who had more powers than the other. The importance that was now given to corporate value statements, as well as the board's role in creating corporate ethics codes, and social and environmental reporting all reflect an acknowledgment of a wider set of corporate obligations beyond the delivery of shareholder value or at least insist that such performance would be realized within certain ethical constraints (Davis, Gole, Baena & Moat, 2012).

2.6.3 Agency theory

Agency theory-guided corporate governance variable in this study. According to Jesen and Meckling (1976), Adam Smith (1887) was the first to identify the agency problem as supported by (Ross, 1973). Agency theory stated that the purpose of corporate governance was to ease acquiescence by dropping selfish predispositions to mitigate risk through and innovative ways. There was normally a high probability of problems emanating from the separation of ownership and control, hence the agent was always ensuring that the rule of law and policies were always followed to make an organization as a going concern on behalf of the owner. Studies such as Sambuo and Msaki in 2019 adopted this theory in their work.

Agency theory was adopted in this study because the management personnel of a cooperative society always understood that they represented the principle in the coffee production area. Corporate governance was ensured when cooperative societies always had the best interest of shareholders by encouraging open and well-organized markets; subjective to the rule of law; and indicating different tasks that diverse managerial,

monitoring, and implementation personnel play (The Institute of Company Secretaries of India, 2019; Challenger Limited, 2018). Corporate governance called for quality administration of coffee farmer's wealth and its improvement. Quality administration was ensuring that there was no unnecessary expenses and embezzlement of their funds.

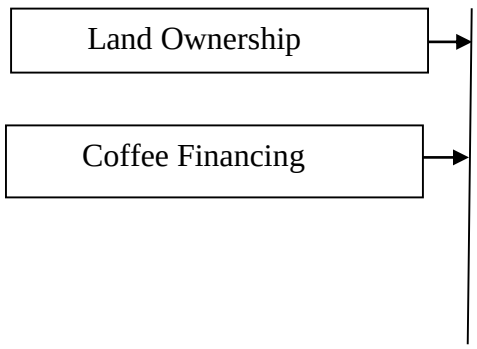
Agency theory was critiqued by (Perrow, 1986) who indicated that positivist agency investigators had only concentrated on the agent side of the 'principal and agent problem', and opined that the problem also happened from the principal side. This critique enabled the study to examine the influence of a coffee farmer as the principal in coffee production. That was to say there was enough provision of land to plant coffee, plenty of financing, reliable prices, and good governance but the coffee farmer failed to deliver on their part. This revelation enabled the study to know the challenges that made a farmer not fulfill their obligations in reviving coffee production.

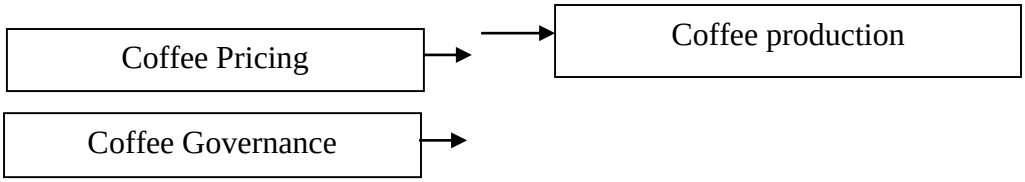
2.7 Conceptual frame work

Figure 2.1 represented the variables being measured in the study. It showed independent variables on the left and the dependent variable on the right. The independent variables were land ownership, coffee financing, coffee pricing, and coffee governance while the dependent variable was the coffee production.

Figure 2.1

Conceptual framework



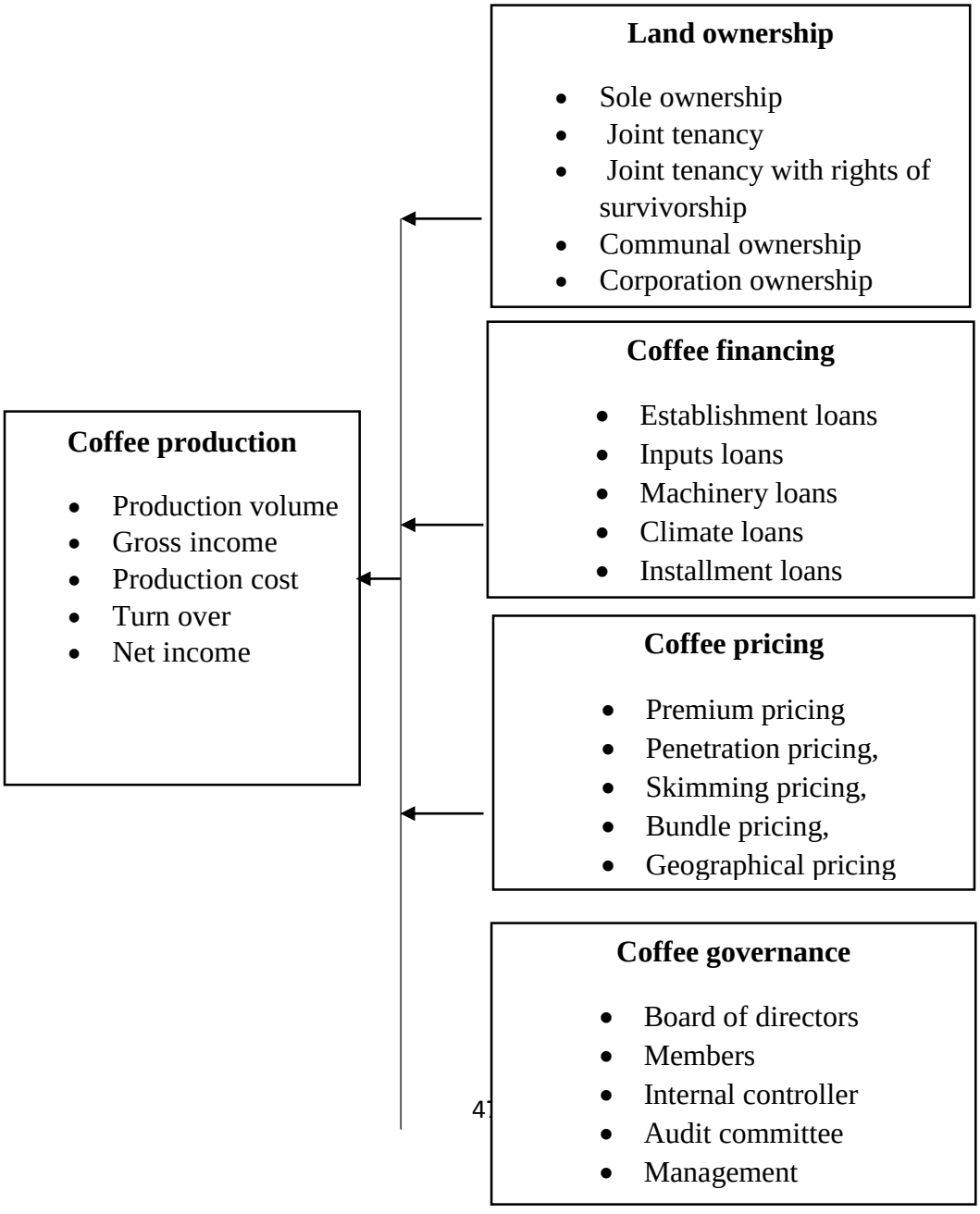


Independent Variables Dependent variable

2.7.1 Operational framework

Figure 2.2

Operational framework



Dependent variable **Independent variables**

2.7.1 Description of Variables

The dependent variable was measured by the production volume, gross income, production cost, turn over time, and net income changes in cooperative societies. In achieving this, the study assessed the number of coffee bags produced annually; the charges incurred to produce these bags; how long it took to produce; revenue generated without deducting expenses and taxes; and revenue after deduction of expenses and taxes (African Development Bank Group, 2017).

The independent variables were land ownership, coffee financing, coffee pricing, and coffee governance (Arango-Aramburo et al., 2019). Land ownership was measured by examining indicators such as sole ownership, joint tenancy, joint tenancy with rights of survivorship, communal ownership, and corporation ownership (Arango-Aramburo et al., 2019). Besides, there was a measurement of sizes of lands owned by individuals, two or more people, a group of people with succession rights, community, and organizational lands (Arango-Aramburo et al., 2019; Baker, 2014).

Coffee financing was measured by establishing loans; inputs loans, machinery loans, climate loans, and installment loans (Coffee Board of Kenya, 2012). Various forms of coffee financing based on different farmers' needs were assessed and its influence on coffee

production revival in Meru county ascertained. There was an assessment of the number of loans issued to buy coffee machines; coffee inputs, personal credits to coffee farmers, weather insurance forms of loans, and their repayment plans (Coffee Business Intelligence, 2018). Coffee pricing was assessed using indicators such as premium pricing, penetration pricing, skimming pricing, bundle pricing, and geographical pricing (Coffee Board of Kenya, 2012).

There was a measurement of how cooperative society's price coffee anchored on superior quality, entry to the new market, promotion period, and location (East African Finest Coffee Association, 2010). Corporate governance was measured by examining elements such as the board of directors, members, internal controller, audit committee, management, and regulators (Challenger Limited, 2018). There was an assessment of the robustness of cooperative societies leadership through the board of directors; members contribution; internal controller's function of ensuring risk was managed; audit committee impact on ensuring there was no embezzlement of funds; how management ran the daily financial operations of the cooperative society; and whether the laws were followed in a cooperative society (East African Finest Coffee Association, 2010).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter considered the research methodology that was applied in conducting this study. It covered the location of the study, research design, population and sampling design, data collection methods, data analysis, and ethical considerations.

3.2 Location of the study

This study was conducted in cooperative societies from Meru County. Meru County is located in the eastern region of Kenya. Meru County happens to be on the slopes of Mount Kenya which provides a tropical climate for coffee production. The advantage of the equator passing through Meru County also ensures that the climate of the area was a tropical warm climate (Meru County Government, 2018). Meru County was chosen as the location for this study because there was always enough rain and sunlight for the effective growth of coffee trees as compared to other regions such as Isiolo county. This kind of climate boosts Meru County to be among the highest producers of coffee products in Kenya (Coffee Board of Kenya, 2012). The advantage of volcanic soils which are located at the slopes of Mount Kenya provides rich nutrients and aeration facilitating a positive attribute in coffee production (Coffee Board of Kenya, 2012).

3.3 Research design

A research design is an approach a researcher utilized to combine diverse aspects of the study in a logical and well-thought way to ensure the study achieves the objective of addressing a research problem in a well-advocated manner (Kothari & Garg, 2014). This study adopted a descriptive research design. Jwan (2010) observed that a descriptive research design was used when data are collected to describe persons, organizations, settings, or phenomena. Descriptive survey research is the process in which data was collected to test hypotheses or to answer questions concerning the current status of the subject under study. Descriptive study according to Mugenda and Mugenda (2003) also engaged an assessment of the situation of affairs describing, analyzing, and reporting conditions that exist or that existed.

The descriptive research design was also used in related studies by (Songa and Cheluget, 2016) when they considered what were the elements of deciding the mode of coffee finance in Machakos. Karanja (2018) also adopted the design in the study related to the effects of liberalization measures undertaken in the coffee industry on coffee production, quality, and profitability in Kenya. This design helped to explore how variables in this study were related to each other as they addressed the main problem of the study. That was, a descriptive survey research design aided in understanding how strategies for reviving coffee production in cooperative societies in Meru County were related to each other.

3.4 Target population

According to Zikmund et al. (2010), and Mugenda and Mugenda (2003) a population is a group of individual subjects that possess similar attributes that are used in a study. When data is collected from the population, these attributes enable the researcher

to conduct the study to have reliable information in addressing a certain problem (Mugenda & Mugenda, 2003). The target population in this study was 42 cooperative societies under Meru Coffee Millers Union (MCMU) located in Meru county. The 42 cooperative societies were indicated in Table 3.1. Information was provided by coffee farmers and coffee cooperative society's managers.

On the one hand, coffee farmers were people that participated directly in coffee planting, maintaining, harvesting, and taking their harvests to the coffee processing factories. They were therefore part of key respondents that were considered in this study to provide information on land ownership, coffee financing, coffee pricing, and corporate governance in cooperative societies. Coffee farmers were knowledgeable about what processes were followed in coffee production validating their importance in the study. They search land for planting coffee, financing alternatives, following up with the pricing, and ensuring that coffee cooperative societies were run well since there were the owners. In this study, the total number of coffee farmers were 27, 913 diversely distributed on Meru county cooperative societies (Meru Coffee Millers, 2020).

On the other hand, managers were directly involved in negotiating the best prices for coffee products, advise farmers on what were the best financing channels they could use, trained farmers on how to plant quality coffee for better yields, took part in ensuring farmers receive their payments on time (Kenani & Bett, 2019; Kamakia, 2016). This study considered managers from the 42 coffee cooperative societies. A manager was any person responsible for controlling or administering functions in a cooperative society. The data about coffee farmers and managers was obtained from the Meru Coffee Miller's website

of various cooperative societies (Meru Coffee Millers, 2020). The details were shown in Table 3.1.

Table 3.1

Target population

No.	Coffee cooperative society	Farmers	Managers
1	Kathera	1125	4
2	Njoe Kaongo	111	1
3	Karingene	97	1
4	Lower Abogeta	975	3
5	Kanjalu	76	1
6	Mutuma	546	3
7	Mirigamieru	1232	4
8	Nthimbiri	927	3
9	Mariara	1545	6
10	Nyaki	2132	8
11	Kirugui	187	1
12	Karia	147	1
13	Kithino	1432	6
14	Muguna	121	1
15	Uruku	221	2
16	Thagara	457	3
17	Thangatha	555	3
18	Kithima	104	2
19	Thikwi	116	1
20	Nunkunu	229	2
21	Gikurwa	665	3
22	Kianjuri	1189	6
23	Gikongoro	154	1
24	Katheri	269	1
25	Ruiri	446	3
26	Kiangua	215	2
27	Mitiine	448	3
28	Mutego	110	1
29	New Igembe	1607	5
30	Tigania north	324	2
31	K Kalithiria	76	1
32	K Kimachia	148	1
33	Mutethia	796	3
34	Mt. Kenya	1735	4
35	Mukuune	2148	8
36	Mukiiria	1877	5
37	Igento	236	2
38	Gichugene	987	3
39	Kaguru	67	1
40	Kiegucia	695	3
41	Mikumbune	789	4
42	Ntima	597	3
	Total	**27,913**	**121**

3.5 Sampling technique and sample size

Sampling is the process of selecting a subgroup of characters from an entire whole population from which the study intends to cover, to act in the capacity of exemplifying the whole population (Mugenda, 2008). A sampling technique is hence a method used to get the samples (Cooper & Schindler, 2011). In this study, the researcher sampled coffee cooperative societies by use of systematic sampling technique. That is, the researcher considered every 3rd cooperative society from the list. According to Mugenda and Mugenda (2003), a sample of between 10% and 30% is adequate. Therefore, 30 % was used to compute the sample size from 42 coffee cooperative societies which gave a sample of 13 of them. After applying a systematic sampling technique, 13 cooperative societies were selected. Coffee farmers from the 13 cooperative societies were sampled using a simple random sampling technique while managers were not sampled hence census technique was used on them.

This study then used the corresponding number of farmers in each selected cooperative society to compute the required sample size. According to Cooper and Schindler (2011), the sample size is a part of a target population carefully selected to represent that population. This careful selection of coffee farmers was done using the inclusion and exclusion criteria. In this case, for a coffee farmer to be selected in the participation of the study one needed to be a member of their cooperative society for at least 20 years, had participated at least in 15 annual general meetings, received coffee payments in at least 20 years, and one had at least used a financial institution as a source of financing at 15 times. To be able to get this information, the consultation was done from the records on the registry in the cooperative societies. A total of 13 managers from each

of the 13 cooperative societies was selected to participate in the study. The sampled population of the 13 cooperative societies, coffee farmers, and managers were as shown in Table 3.2.

Table 3.2

Sampled population

Coffee cooperative society	Coffee farmers	Managers
1. Kathera	26	1
2. Kanjalu	11	1
3. Mariara	20	1
4. Kithino	16	1
5. Thangatha	7	1
6. Gikurwa	18	1
7. Ruiri	9	1
8. New Igembe	12	1
9. Mutethia	14	1
10. Mt. Kenya	16	1
11. Kiegucia	22	1
12. Mikumbune	17	1
13. Ntima	19	1
Total	**207**	**13**

3.6 Data collection instruments

Primary and secondary data were collected in this study. Primary data was collected through questionnaires and interviews as indicated in appendix (II) and (III). Secondary data was collected through published reports found on the coffee board of Kenya website. The nature of questions in both research instruments was guided by considering pertinent issues and gaps identified in the literature review in chapter two of this study.

3.6.1 Questionnaire

Coffee farmers' responses were collected through a closed-ended questionnaire. Closed-ended questionnaires were related to land ownership, coffee financing, coffee pricing, and cooperative society governance as indicated in appendix II. This was because in this study coffee farmers were most suitable to give responses to what lied behind coffee production than any other party in coffee production. They bought land for planting coffee, financing alternatives, followed up with the pricing; ensured that coffee cooperative societies were run well since there are the owners; and were directly concerned about the revival of coffee production in Meru county. The closed-ended questionnaires that were used were confined to a 5-point Likert ordinal scale to which they answered by ticking either 1-Strongly disagree, 2-disagree, 3- Neither agree nor disagree, 4- Agree, 5- Strongly agree. Cooper and Schindler (2011) agreed that a Likert ordinal scale was reliable and could be used in a large volume of data to have a better approximation of the normal response curve. In a scenario where a farmer could not read or write, the research assistants explained in the language most applicable to that farmer.

3.6.2 Interview

Managers in cooperative societies were interviewed on all variables of the study. This was because managers were well versed in how land ownership, coffee financing, coffee pricing works, and how the corporate governance structure was managed and effected in reviving coffee production in cooperative societies as shown in appendix III.

3.6.3 Document analysis

Secondary data was used to gather information related to the dependent variable in this study which was coffee production. Information such as production volume, gross income, production cost, turns over and net income will be collected from the year 2017-2019. Annual, semi-annual and quarterly reports were readily available at the coffee board of Kenya reports. The researcher, therefore, accessed these reports from the coffee board of Kenya's website. Appendix (IV) gave the secondary data collection instrument.

3.7 Pre-testing of research instruments

Pre-testing is the ability to conduct a prior mock study with different respondents but in the same area of the study's objectives (Cooper & Schindler, 2011). This is done before the main study to ensure that the research instruments are reliable and enabled the study and got the utmost information from the respondents. This study issued the supposed questionnaires to ten active farmers in Kamuthi housing cooperative society of Murang' a county. Murang'a county was chosen because it shared the same cool climatic conditions such as the ones in Meru county and both counties are leading coffee producers in Kenya (International Coffee Organization, 2019b). Apart from that Murang's county has a modern plant for roasting and grinding coffee which produces coffee for both local and international markets. Coffee farmers who mostly are large scale farmers have greatly advanced and are using modern farming machines that have scaled up production proficiently. Five managers in the same Kamuthi housing cooperative society of Murang'a County were considered for a mock interview. Both the managers and farmers in Kamuthi cooperative societies of Murang'a County were selected by a simple random sampling method.

3.8 Reliability

Reliability is the dependability of a study instrument's results when used at a target population (Kothari & Garg, 2014). There are many ways of measuring reliability such as test-retest reliability, parallel forms reliability, and internal consistency reliability (Eisinga et al., 2012). However, this study used Cronbach's alpha coefficient in determining reliability. Cronbach's alpha coefficient ranged from 0 to1 hence any study's research instrument to be reliable, had to have a minimum of 0.7 Cronbach's alpha. The higher the range the more reliable a study's instruments were. In this study, a reliability test was applied when the pre-test results were subjected to Cronbach's alpha coefficient test to determine whether they were suitable in this study or not.

3.9 Validity

Validity is the ability of a research instrument to effectively measure what it was meant to measure (Kothari & Garg, 2014; Salkind, 2014). Types of validity such as content, criterion, and face validity were observed in this study. Content validity was observed by making sure that questions inquired were relatable to land ownership, coffee financing, coffee pricing, and coffee corporate governance. The prior literature facilitated to ensure that both the questionnaire and interview issued had done that. Criterion validity tested how well the outcome of the study measured the influence of land ownership, coffee financing, coffee pricing, and corporate governance of cooperative societies on the revival of coffee production in Meru county. This was observed when there was a comparison of the results of the pre-test with various studies that had ever dwelt on land ownership, coffee financing, coffee pricing, and corporate governance of cooperative societies.

To achieve that, this study heavily consulted the already reviewed literature to identify the studies that had talked about the main constraints of the study. For example, (Salkind, 2014) model legitimacy was completed by connecting the scores from the test with some other prior similar measures. Lastly, face validity was guaranteed by the study when there was a review of the influence of each independent variable on the dependent variable. That was, the influence of land ownership on coffee production revival; the influence of coffee financing on coffee production revival; the influence of coffee pricing on coffee production revival; and the influence of corporate governance of cooperative societies on coffee production revival. All these aids in articulating if independent variables separately affect the dependent variable in this study.

3.10 Data collection procedure

The study first got an introductory letter from Kenya Methodist University [KeMU]. The introductory was to be used to apply for a research permit from NACOSTI. This research permit was used as a verifier that the government acknowledged that the study was being conducted. This study used the services of four research assistants who used to help coffee farmers who may have language barriers fill the questionnaires and also conduct interviews with the managers of the selected cooperative societies. The research assistants were trained on how to effectively interview a respondent and how to be confident when meeting up with the respondents. Research assistants were selected on the basis that they were fluent in Kimeru native language and also according to their experience in coffee production.

They were trained on how to explain the purpose of the interview and questionnaires to both the farmers and managers respectively. At the end of the training,

there was the conduct of mock interviews and questionnaires issuing by all research assistants to ensure that they were capable enough to conduct the study. The research assistant then proceeded to the sampled coffee cooperative societies, where the respondents were identified.

3.10.1 Procedures for administering the questionnaire

The first procedure was identifying the coffee farmers since they were answering the questionnaire. Identification was done by consulting their records in the registry that were provided for by their cooperative societies. To be able to access the registry, the research assistants consulted the clerks in cooperative societies. The research assistants used the introduction letter from Kenya Methodist University (KeMU) and research permit from NACOSTI to introduce themselves and why they were carrying out the study. Being members of the cooperative societies, the registry indicated how they were contacted for meetings and payments. This was through their telephone numbers or emails.

Once coffee farmers were identified, the second procedure that followed was the research assistants carefully selecting the coffee farmers that participated in the study. That was based on the membership period, the participation rate in annual general meetings, payment period, and the period of usage of a financial institution as their source of financing. The research assistants then called or email farmers and identify themselves. They then proceeded to know how they could meet with the farmers to issue them with the questionnaires. The meeting was either be done at the coffee factories or various coffee farms depending on the availability of the farmers. The research assistants then decided

whether to meet up with the farmers at the factory or their respective farms depending on the suitability of the coffee farmers.

The third procedure was meeting up with the farmers and issuing them with questionnaires and answering any inquiries on the study. They then left the farmers with the questionnaires but let them know that they would collect the filled in questionnaires after a week. In case of a farmer was not being able to fill in the questionnaires, the research assistant helped them out hence collected the filled-in questionnaire the same day. The final procedure was analyzing the filled in questionnaires and later storing them in a safe place after the analysis.

3.10.2 Procedures for conducting an interview

The first procedure was identifying the cooperative societies' managers when the research assistant visited the cooperative societies. Once they knew who the managers were, the second procedure was that research assistants introduced themselves and explained why they were carrying out the study. After the introductions, they then requested the managers to participate in the interview. If the managers were busy at the time, the research assistants booked an appointment on a day convenient for managers to have the interviews.

The third procedure was conducting the interview which was done then the research assistants thanked the interviewees for their time and feedback. The research assistants then bundled all the interview responses to aid in the analysis of data and later stored them in a safe place.

3.10.3 Procedures for collecting secondary data

The first procedure that was used by research assistants in collecting secondary data was connecting the computer to the internet. This enabled them to search over the internet the name of the coffee board of Kenya, then proceed to the regional portal and select cooperative societies in Meru County. The second procedure was identifying the names of the cooperative society's key in this study and looked at various indicators used to identify coffee production in this study. These indicators were shown in appendix IV. Once gotten, the last procedure that the research assistant conducted was filling in the secondary data collection sheet with various data on 13 cooperative societies in Meru County.

3.11 Data Analysis and Presentation

Quantitative and qualitative data was expected to be collected in this study. Once quantitative data was collected, incomplete questionnaires were sorted out to identify any ambiguity as well.

3.11.1 Analysis of Quantitative data

Proper coding of sort out data was done with the help of Statistical Package for Social Sciences (SPSS software, Version 24). The coding involved conveying different statistics arrangements with numbers to assist in analysis. Different computations on descriptive statistics such as mean, standard deviation, and percentages were first to be computed. Later on, there was linear regression to test each hypothesis and multiple regression analysis to study the influence that strategies on land ownership, coffee financing, coffee pricing, and corporate governance of cooperative societies had towards

reviving coffee production in cooperative societies in Meru county Kenya. The model was as follows:

Coffee production = C + β1LOi, t + β2ICFi, t + β3ICPi, t + β3ICGi, t + e

Where;

LO= Land ownership

CF= Coffee financing

CP= Coffee pricing

CG = Coffee governance

C = constant coefficient (intercept)

β = slope coefficient of independent variables

i = number of cooperative societies

t = period

Ɛ= error term

The normality test, linearity test, heteroskedasticity test, and auto-correlation test were used to determine the suitability of using regression in the analysis. In addition to descriptive interpretation, tables and detailed explanations were used to present the final results of the study.

3.11.2 Analysis of documents (qualitative data)

Secondary data derived from reports was documented as it was. The researcher noticed that at the coffee board of Kenya reports, coffee production volume, turn over time, total costs, and total net income data per cooperative society were directly given. To get gross income from the data, the researcher deducted total expenses from the total income. The information was filled in the secondary data collection sheet indicated in appendix III in this study.

3.11.3 Analysis of interview data (qualitative data)

The content analysis technique was used to analyze data collected during the interview. Interview data received from the managers was analyzed. In each question, all the responses given were issued with special codes. This aided in describing the content. Thereafter the researcher looked for patterns of responses that looked similar across the 13 managers. When these responses were identified, they were grouped under different themes. These themes were used in the analysis of the production of the interview report in the study.

3.11.4 Measurement of variables

Land ownership was measured using seven items. They were measured by the method of both questionnaires and interviews. They were measured to know the influences that land ownership structure has on the revival of coffee production in Meru county. These 7 items from the interview questions were adapted from Lyon et al. (2018). Coffee financing was measured using 4 items. They were measured by the method of both questionnaires and interviews. They were measured to know the influences that coffee

financing has on the revival of coffee production in Meru county. These 7 items from the interview questions were adapted from (Macharia & Genga, 2019).

Coffee pricing was measured by 5 items. They were measured by the method of both questionnaires and interviews. They were measured to know the influences that coffee pricing has on the revival of coffee production in Meru county. These 5 items from the questionnaires were adapted from (Folch and Planas, 2019; Gituma, 2017). Corporate governance of cooperative societies was measured by 6 items. They were measured by the method of both questionnaires and interviews. They were measured to know the influences that corporate governance of cooperative societies has on the revival of coffee production in Meru County. These 5 items from the questionnaires were adapted from (Kenani & Bett, 2019; Drogalas & Pazarskis, 2017).

3.12 Ethical Considerations

The researcher looked for permission from the university to carry out the study. Once this was granted, the researcher got a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI) before commencing the data collection. The individuals answering the questionnaires and being interviewed were notified that the information they gave was only for academic purposes. That was indicated in appendix I.

Further, the study ensured the anonymity and confidentiality of coffee farmers and managers by not indicating their details such as names, mobile numbers, or emails on the interview guides or questionnaires. This was to ensure discretion and improve their participation rates. The cooperative societies through which secondary data was gotten

from, were identified by codes from 001-013 to avoid using their names. For example, 001 represented a cooperative society such as Gichugene. All sources consulted in this research, were acknowledged by being cited in the references section.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The chapter gives the results and discussion emanating from the collected data. The chapter is organized beginning with reliability test, response rate, and respondent's background information. This is followed by the linearity test, normality test, multicollinearity test, collinearity test. Descriptive statistics from the research instruments from the respondents are next to linearity and multilinearity analysis completed the chapter.

4.2 Reliability test

The researcher conducted a pre-test study to measure the reliability of both the questionnaires and interview guides. Pre-test questionnaires were issued to ten active farmers in Kamuthi housing cooperative society of Murang'a County. Apart from that five managers in the same Kamuthi housing cooperative society of Murang'a County were considered for a mock interview. Both the managers and farmers in cooperative societies of Murang'a County were selected through a simple random sampling method. Table 4.1 gives the results derived thereof.

Table 4.1

Reliability Statistics

Instrument	**Cronbach's Alpha**	**N of Items**
Questionnaire	.94	10
Interview guide	.82	5
Average	**.88**	

The results from Table 4.1 indicate that questionnaires and interviews had a high Cronbach's alpha coefficient of 0.94 and 0.82 respectively. When combined, the average

coefficient was 0.88 indicating that the research instruments were reliable to derive the main and specific objectives of this study. This was because according to Kothari and Garg (2014) for Cronbach's alpha coefficient to be reliable, any study's research instrument had to have a minimum of 0.7 Cronbach's alpha.

4.3 Response rate

The study had targeted 13 cooperative societies whose farmers and managers would respond to the questionnaires and interviews respectively. The researcher had intended that there would be a sample of 207 farmers and 13 cooperative societies'' managers. When the researcher collected data, not all questionnaires were returned as well as not all managers participated in the interview. Table 4.2 gave response rates.

Table 4.2

Response Rate on Questionnaires and Interviews

Category	**Frequency**	**Percent**	**Cumulative Percent**
Questionnaires			
Response	161	77.7	77.7
Non-response	46	22.3	100
Total	**207**	**100**	
Category	**Frequency**	**Percent**	**Cumulative Percent**
Interview guide			
Response	10	76.9	76.9
Non-response	03	23.1	100
Total	**13**	**100**	

As indicated from Table 4.2, out of 207 issued questionnaires 161 questionnaires were returned filled while out of 13 supposed interviews, 10 managers accepted to be interviewed. In the interview instrument, it proved that the response rate was 77.7% while

in the interview it was 76.9%. This was a good response rate according to Kevin, Shimon, Elijah, and Leah (2017) who indicated that a response rate above 70% was very good.

4.4 Background Information

At the commencement of each research instrument used in the study, the researcher was interested in knowing the various respondent's background information. These included the gender, duration of coffee farming by farmers, size of land under coffee plantation, the ownership structure of the land farmed coffee, type of documents that proved ownership of land, Name of cooperative societies' farmers were members of and lastly the numbers of years that managers had stayed in their respective cooperative society. The information was indicated in Table 4.3 to Table 4.9.

The respondents were inquired about their gender. The two categories of gender were males and females. The results were indicated in Table 4.3 below.

Table 4.3

Background Information- Gender

Category	Frequency	Percent	Cumulative Percent
Male	94	58.4	58.4
Female	67	41.6	100
Total	**161**	**100**	

From Table 4.3 the number of male coffee farmers was 94(58.4%) while the female coffee farmers were 67 (41.6%). In agreement, Balgah (2018) discovered that gender was one factor that influenced coffee farmers to become a member of a cooperative. Balogh added

that since most coffee farmers were males, most coffee cooperatives had more males than females.

There was also a keen interest in the study to establish how long coffee farmers had been active in coffee farming. The results were shown in Table 4.4

Table 4.4

Background Information- Duration of Coffee Farming

Category	Frequency	Percent	Cumulative Percent
Less than 1 year	30	18.6	18.6
2-5 years	32	19.9	38.5
6-10 years	47	29.2	67.7
11 years and above	52	32.3	100
Total	**161**	**100**	

From Table 4.4 it was evidenced that most farmers had the rich experience of coffee farming. This was as a result of 52(32.3%) of coffee farmers agreeing that they had farmed for 11 years and above. The trend declined as the years of experience in coffee farming reduced. For example, 32(19.9%) confirmed that they had 2-5 years of coffee farming while only 30(18.6%) had less than a year in coffee farming. Considering also a high coffee production nation like Brazil, Baddini (2016) indicated that coffee farmers in the place had mastered the art of planting green coffee due to many years of experience they had in the venture.

The study also inquired about the size of the land that coffee farmers were planting coffee on. Table 4.5 gave the results.

Table 4.5

Background Information-Size of Land

Category	Frequency	Percent	Cumulative Percent
Less than 5 acres	84	52.2	52.2
Less than 15 acres	57	35.4	87.6
Above 15 acres	20	12.4	100
Total	**161**	**100**	

Table 4.5 indicated that most coffee farmers were planting coffee on a small scale whereby 84 (52.2%) accepted that they were farming in less than 5 acres while 20(12.4%) were farming coffee above 15 acres. This fact was also appreciated by Kamakia (2016) when the study agreed that the fact that the majority of coffee farmers in Kirinyaga County were the small scale of fewer than 10 acres, made them struggle in securing credit facilities.

The study investigated the kind of ownership structure coffee farmers had on their various pieces of land. Table 4.6 gave the findings.

Table 4.6

Background Information - Ownership Structure of Coffee Land

Category	Frequency	Percent	Cumulative Percent
Ancestral land	24	14.9	14.9
Bought a land	32	19.9	34.8
Communal land	09	5.6	40.4
Cooperative society' land	96	59.6	100
Total	**161**	**100**	

According to Table 4.6 cooperative society's land led in terms of ownership whereby 96(59.6%) of coffee farmers indicated that. The second group was coffee farmers who had bought their various pieces of land to farm coffee 32(19.9%). Communal land had the least number whereby only 9(5.6%) coffee farmers were admitted as their farm's

ownership structure. Hakizimana et al. (2017) agreed that land was becoming scanty as the population was growing in Meru County. This resulted in agricultural activities being limited to small plots of land basically as a result of buying.

The researcher gathered information to confirm the various forms of coffee farm ownership documents that coffee farmers had. Table 4.7 indicated the results.

Table 4.7

Background Information- Land Ownership Document

Category	Frequency	Percent	Cumulative Percent
Allotment letter	108	67.1	67.1
Freehold title	24	14.9	82.0
Lease title	10	6.2	88.2
Mortgage note	12	7.5	95.7
Deed of trust	7	4.3	100
No document	0	0	100
Others	0	0	100
Total	**161**	**100**	

As indicated in Table 4.7, 108 (67.1%) coffee farmers had an allotment letter to prove the legality of their coffee lands. This was the case since the majority of farmers were doing coffee farms on cooperative society pieces of land. Those who held freehold title deeds were 24(14.9%) while those who had a deed of trust were only 7(4.3%) of them. A very critical aspect was that all the farmers who participated in the study had a document to prove their legal status as a party in their piece of land. As also evidenced in Ethiopia, Global Agricultural Informational Network (2019a) indicated that most of the coffee farming land documents of ownership were allotment letters and few free-hold title deeds. The reason why there were many allotment letters was to ensure that coffee farmers stayed

intact and in one region for more economics of scale. This was proving reliable as Ethiopia was discovered in the reviewed literature of this study as one of the best coffees producing countries in Africa and globally.

The researcher inquired on the cooperative society members of the coffee farmers. Table 4.8 gave the outcome gotten.

Table 4.8

Background Information- Name of the cooperative society of membership

Category	Frequency	Percent	Cumulative Percent
Kathera	23	14.3	14.3
Kanjalu	8	4.9	19.2
Mariara	10	6.2	25.4
Kithino	13	8.1	33.5
Thangatha	4	2.5	36.0
Gikurwa	15	9.3	45.3
Ruiri	6	3.7	49.0
New Igembe	9	5.6	54.6
Mutethia	11	6.8	61.4
Mt. Kenya	13	8.1	69.5
Kiegucia	19	11.8	81.3
Mikumbune	14	8.7	90.0
Ntima	16	10	100
Total	**161**	**100**	

Table 4.8 indicated that the majority of coffee farmers who participated in this study were members from Kathera 23(14.3%); followed by Kiegucia19(11.8%), and Ntima came third by 16(8.7%). Ruiri with only 6(3.7%) coffee farmers were the least in this study.

The last background information was gathered from cooperative society managers. The study was interested in knowing how long the cooperative managers had been managers in their cooperative societies. This information was given in Table 4.9

Table 4.9

Background Information- Managers duration at Cooperative Society

Category	Frequency	Percent	Cumulative Percent
Less than 1 year	0	0	0
2-5 years	2	18.2	18.2
6-10 years	3	27.2	45.4
11 years and above	6	54.6	100
Total	**11**	**100**	

The results from Table 4.9 indicated that most managers had over 11 years' experience and above 6(54.6%). This was followed by managers who had 6-10 years' experience who were 3(27.2%). Only 2(18.2%) managers had 2-5 years' experience. A notable fact was that none of the managers had less than a year of experience. True to this fact, In (Vietnam, Anh and Bokelmann, 2019) for a manager to be tasked with the responsibility of marketing their coffee, the manager needed to have been in the cooperative society for at least 3 years. This was to ensure that managers were equipped with relevant knowledge of various market preferences for a sustainable income from coffee sales.

4.5 Diagnostic Tests

The study conducted diagnostic tests to satisfy various assumptions that are required and measure the suitability of the data that was collected from coffee farmers to

be used in linear and multiple regression analysis. The researcher conducted a linearity test, normality test, and multicollinearity test.

4.5.1 Linearity test

The study conducted a linearity test to ensure whether the data was linearly inclined. The results from Table 4.10 indicated that all the variables of the study had a significant linear value that was above 0.05. Land ownership deviation from linearity at a significant level of 0.897; Coffee financing deviation from linearity at a significant level of 0.665; Coffee pricing deviation from linearity at a significant level of 0.600; corporate governance deviation from linearity at a significant level of 0.378.

Table 4.10

Linearity Test

			Sum of Squares	Df	Mean Square	F	Sig.
The revival of coffee production	Between Groups	(Combined)	569.934	10	56.993	131.327	.624

Land ownership		Linearity	551.980	1	551.980	1271.899	.273
		Deviation from Linearity	17.954	9	1.995	4.597	.897
	Within Groups		65.097	150	.434		
	Total		635.031	160			
Coffee financing	Between Groups	(Combined)	422.116	14	30.151	20.675	.332
		Linearity	377.495	1	377.495	258.856	.333
		Deviation from Linearity	44.621	13	3.432	2.354	.665
	Within Groups		212.915	146	1.458		
	Total		635.031	160			
Coffee pricing	Between Groups	(Combined)	67.699	18	3.761	.941	.531
		Linearity	8.048	1	8.048	2.014	.158
		Deviation from Linearity	59.651	17	3.509	.878	.600
	Within Groups		567.332	142	3.995		
	Total		635.031	160			
Corporate governance	Between Groups	(Combined)	491.282	21	23.394	22.622	.000
		Linearity	468.961	1	468.961	453.470	.000
		Deviation from Linearity	22.321	20	1.116	1.079	.378
	Within Groups		143.749	139	1.034		
	Total		635.031	160			

4.5.2 Normality test

The second assumption that was conducted in this study was the normality test. One-Sample Kolmogorov-Smirnov Test was used to analyze and know the normality test. This

was because the samples were above fifty (Mishra, Pandey, Singh, Gupta, Sahu, and Keshri, 2019). Table 4.11 gave the results.

Table 4.11

Normality Tests

		Land ownership	Coffee financing	Coffee pricing	Corporate governance	The revival of coffee production
N		161	161	161	161	161
Normal Parameters[a,b]	Mean	26.9565	25.9193	17.0932	42.6025	17.1925
	Std. Deviation	2.08071	2.77708	4.32262	5.22527	1.99222
Most Extreme Differences	Absolute	.185	.196	.071	.145	.192
	Positive	.115	.178	.071	.078	.125
	Negative	-.185	-.196	-.068	-.145	-.192
Kolmogorov-Smirnov Z		2.352	2.492	.901	1.843	2.430
Asymp. Sig. (2-tailed)		.232	.245	.392	.462	.321

a. Test distribution is Normal.

b. Calculated from data.

The results from Table 4.11 indicated that land ownership, coffee financing, coffee pricing, and corporate governance were normally distributed. They had a statistical significance value of 0.232; 0.245; 0.392; 0.462 respectively which was above 0.05 statistically significant value.

4.5.3 Multicollinearity test

The researcher also conducted a multicollinearity test to ensure that coefficients were surely significant for the robustness of the final regression model. Therefore, for a

data set to pass the multicollinearity test, it had to have a tolerance level of greater than 0.2 and a VIF value less than 5 (Vatcheva, Lee, McCormick & Rahbar, 2016). Table 4.12 gave the findings derived.

Table 4.12

Multicollinearity Test

Model	**Collinearity Statistics**	
	Tolerance	**VIF**
(Constant)		
Land ownership	.215	4.651
Coffee financing	.361	2.773
Coffee pricing	.894	1.118
Corporate governance	.363	2.135

The results indicated in Table 4.12 showed that all the four variables did not have a multicollinearity problem. Land ownership had VIF of 4.651 and tolerance of 0.215; Coffee financing had VIF of 2.773 and tolerance of 0.361; Coffee pricing had VIF of 1.118 and tolerance of 0.894; Corporate governance had VIF of 2.135 and tolerance of 0.363.

4.6 Influence of Land Ownership on Revival of Coffee Production

The first specific objective of the study was to examine the influence of land ownership on reviving coffee production in cooperative societies in Meru county Kenya. This specific objective had various indicators such as sole ownership, joint tenancy, and

joint tenancy with rights of survivorship, communal ownership, and corporation ownership. There were both questionnaires and interviews conducted to gather information on this objective. On the questionnaire part, the respondents were required to 1-Strongly disagree, 2-disagree, 3- Neither agree nor disagree, 4- Agree and 5- Strongly agree with the statements. Table 4.13 gave the outcome.

Table 4.13

Descriptive Statistics of Land Ownership

Statements N=161	**1**	**2**	**3**	**4**	**5**	**Mean**	**Std Dev**
Coffee production from a land that you own increases your gross income as compared to	18(11.2%)	72(44.7%)	0(0%)	71(44.1%)	0(0%)	**2.77**	**1.136**

using the land for other farming uses like banana farming.							
Coffee volume production gets improved when you farm coffee as partners with other people unlike doing it alone	14(8.7%)	66(41.0%)	2(1.2%)	73(45.3%)	6(3.7%)	**2.94**	**1.169**
Partnering with people in coffee farming whereby in case of a misfortune, your kin can still represent you, motivates you to be responsible thereby reducing unnecessary wastages and costs.	65(40.4%)	33(20.5%)	25(15.5%)	17(10.6%)	21(13.0%)	**2.35**	**1.429**
Coffee farming in land owned by an organization such as a cooperative society increases your net income due to high chances of getting subsidized inputs	61(37.9%)	33(20.5%)	20(12.4%)	27(16.8%)	20(12.4%)	**2.45**	**1.449**
Involving your family in coffee farming in family land reduces the time taken to produce coffee.	9(5.6%)	43(26.7%)	1(1.1%)	54(33.5%)	54(33.5%)	**3.63**	**1.336**
Coffee farming on communal land increases annual yields	13(8.1%)	65(40.4%)	6(3.7%)	72(44.7%)	5(3.1%)	**2.94**	**1.142**
Average Mean						**2.85**	**1.28**

The outcome in Table 4.13 indicated that the influence of land ownership on the revival of coffee production was low. It had an average mean of 2.85 and a standard deviation of 1.28. This was the least outcome derived in this study. One thing that was certain in this section was that coffee farmers were involving their family members in coffee farming in family land which reduced the time taken to produce coffee. This had a mean of 3.63 and a standard deviation of 1.336. The coffee farmers disagreed that partnering with people in coffee farming whereby in case of a misfortune, their kin could

still represent them, motivating farmers to be responsible thereby reducing unnecessary wastages and costs. It had a mean of 2.35 and a standard deviation of 1.429.

Another statement that coffee farmers did not seem to agree on was that coffee farming in a land owned by an organization such as a cooperative society increased their net income due to high chances of getting subsidized inputs. It had a mean of 2.45 and a standard deviation of 1.449. A previous study by East African Finest Coffee Association (2010) elaborated further that in as much as coffee farmers were issued with various pieces of cooperative society's land, farmers had to chip in and buy from their pockets various inputs to improve the quality and quantity of the coffee plantations. That was to say there was no support from the societies apart from the issue of land which was a challenge raised by coffee farmers.

In the other part of the questionnaire, the respondents were supposed to explain how the issue of land ownership affected the volume of coffee that they produced. From the various responses given by the respondents, three aspects stood out. That is labor, capital, and resource allocation. On labor, farmers indicated that when one was involved in a larger piece of land, they required more labor either from hiring or family members to farm coffee. On capital, farmers indicated that the ownership structure of the land propelled a farmer to look for various capital options that would be beneficial to their farms. On resource allocation, coffee farmers indicated that the more proportion of land was named under their name, the more resources they invested towards coffee farming. A study by Folch and Planas (2019) indicated that cooperation in form of labor and capital investment was key towards having growth of organic coffee growing in Chiapas.

The researcher also conducted interviews with managers. The first question asked under land ownership was the effects of land structures owned by coffee farmers in cooperative societies. The responses given indicated that there was a healthy competition by farmers, peaceful operations, and improved motivation to increase the output. The second query was how the type of land ownership affect coffee volumes. Managers gave various responses. However, what stood out was that farmers increased more labor, capital, and effective resource inputs when the land was directly under their names as compared to when it was not. The last query in this section was how the general income level structure of coffee farmers was relatable to the size of land they had. It was ascertained that farmers who had a general income that was below Kshs. 50,000 per month had 1acre size of land and below. Income level between Kshs 50,001-100,000 had 1.1 acres to 3ha.

Income level between Kshs 100,001-500,000 had 3.1 to 5 acres of land. Income levels between Kshs 500,000 and above had 5.1 acres of land and above. When compared to Grisson and Guilla (2014) indicated that agricultural policies put into place by developing nations' governments especially on land ownership were causing unhealthy competition as farmers wanted to make ends meet. However, for that to happen according to Kimenju (2019), for the sustainability of coffee to take place, farmers had to invest labor, capital and allocate resources reasonably based on the size of land they had.

4.7 Influence of Coffee Financing on Revival of Coffee Production

The second specific objective of the study was to determine the influence of coffee financing on reviving coffee production in cooperative societies in Meru county Kenya. This second objective had various types such as establishment loans, inputs loans,

machinery loans, climate loans, and installment loans. There were both questionnaires and interviews conducted to gather information on this objective. On the questionnaire part, the respondents were required to 1-Strongly disagree, 2-disagree, 3- Neither agree nor disagree, 4- Agree and 5- Strongly agree with the statements. Table 4.14 had the respondent's responses.

Table 4.14

Descriptive Statistics of Coffee Financing

Statements N=161	1	2	3	4	5	Mean	Std Dev

Loans received to establish a coffee plantation increases gross income generation from coffee production since one can prepare land well.	2(1.2%)	1(0.6%)	0(0%)	17(10.6%)	141(87.6%)	**4.83**	**.576**
Input loans such as getting fertilizer on loan improve coffee production volume.	0(0%)	32(19.9%)	0(0%)	83(51.6%)	46(28.6%)	**3.89**	**1.037**
Loan advanced to buy the required machinery in coffee farming helps to reduce production costs.	0(0%)	21(13.0%)	0(0%)	82(50.9%)	58(36.0%)	**4.10**	**.937**
Loans issued to reduce defenselessness of coffee trees, maintaining and increasing the productivity of coffee to negative climate change impacts increase net income.	0(0%)	10(6.2%)	0(0%)	82(50.9%)	69(42.9%)	**4.30**	**.767**
Installment loans give motivation to farmers to use the shortest time possible in coffee production to get money to pay the installment.	0(0%)	6(3.7%)	0(0%)	83(51.6%)	72(44.7%)	**4.37**	**.678**
Access and availability of land encourages coffee farmers to improve their production	0(0%)	3(1.9%)	0(0%)	83(51.6%)	75(46.6%)	**4.43**	**.599**
Average Mean						**4.32**	**0.77**

Table 4.14 indicated that coffee financing influence of the revival of coffee production in Meru county was high with an average mean of 4.32 and a standard deviation of 0.77. Coffee farmers consented on a mean of 4.83 and a standard deviation of 0.576, with the statement that loans received to establish a coffee plantation increases gross income generation from coffee production since one can prepare land well. These loans would enable coffee farmers' access and available land which encouraged coffee farmers to improve their production. This was the second most agreed statement with a mean of

4.43 and a standard deviation of 0.599. The most disagreed statement was that input loans such as getting fertilizer on loan improved coffee production volume. It had a mean of 3.89 and a standard deviation of 1.037. Contrary to the results, Macharia and Genga (2019) gave input loans as determinants of performance of coffee production in Kiambu County, Kenya. In the other parts of the questionnaire, some of the financing challenges which made coffee farmers not produce the desired capacity were majorly indicated as low credit qualification; lack of financial knowledge; and lack of guarantors. Nsabimana and Tirkaso (2020) recorded that coffee exports had declined in Eastern and Southern African countries since low financing had discouraged farmers from maximally producing high volumes of coffee. Another study by Panhuysen and Joost (2018) gave financing availability as one of the coffee barometers.

In the interview responses on coffee financing, the first question was on the effects of financing alternatives sought after by coffee farmers in the cooperative societies. Managers responded that most farmers searched for advances and overdrafts to improve other miscellaneous costs such as transportation to cooperative societies which reduced turn-around time; machine loans which enabled farmers to use machinery to increase volumes; and inputs financing which enabled farmers to buy fertilizers which improved coffee quality. The second question sought to know the extent to which the available types of financing affected coffee volumes. The managers responded by saying that machines increased the number of bags produced per acre and input financing to buy fertilizers increased the weight of coffee beans. The last questions intended to know how the general income level structure of coffee farmers related to the financing structure they had.

The respondents indicated that income level that was below Kshs. 50,000 capitalized mostly on advances and overdrafts. Income level that was between Kshs 50,001-100,000 mostly used input financing. Income levels between Kshs 100,001-500,000 used mostly machine loans. Then lastly income levels of 500,000 and above resulted in the usage of coffee climate financing. An unpolished document by Sengere (2016) named financing phenomenon was the greatest contributor to the rise, fall, and revival of the Papua New Guinea coffee industry. Sengere (2016) explained that at the commencement of the factory, there were diverse channels that coffee farmers would get financing to purchase inputs. But as time went on, the financing channels started having delays when issuing finances to farmers resulting in very low yields that made the coffee industry almost collapse. On realization of this trend, the government issued more financing in terms of subsidized inputs, machinery loans, and equipped farmers with financial knowledge through training. A closer review by Songa and Cheluget (2016) the choice of various funding options is always closely anchored on the credit qualifications of coffee farmers. If a farmer is not qualified, this often leads to them not accessing financing facilities.

4.8 Influence of Coffee Pricing on Revival of Coffee Production

The third specific objective of the study was to evaluate the influence of coffee pricing on reviving coffee production in cooperative societies in Meru county Kenya. To elaborate on it, different indicators considered were premium pricing, penetration pricing, skimming pricing, bundle pricing, and geographical pricing. There were both questionnaires and interviews conducted to gather information on this objective. On the questionnaire part, the respondents were required to 1-Strongly disagree, 2-disagree, 3-

Neither agree nor disagree, 4- Agree and 5- Strongly agree with the statements. Coffee farmers' responses were tabulated in Table 4.15.

Table 4.15

Descriptive Statistics of Coffee Pricing

Statements N=161	**1**	**2**	**3**	**4**	**5**	**Mean**	**Std Dev**
High selling prices of coffee products due to improved quality increases gross income generation from coffee production.	10(6.2%)	25(15.5%)	1(0.6%)	68(42.2%)	57(35.4%)	**3.85**	**1.236**
Adjusting pricing of coffee products to gain entrance in new market motivates coffee farmers to improve coffee production volume	0(0%)	16(9.9%)	2(1.2%)	26(16.1%)	117(72.7%)	**4.52**	**.936**
Sale of unique coffee products that your competitors do not have at an improved price reduces production costs to great lengths	2(1.2%)	9(5.6%)	0(0%)	23(14.3%)	127(78.9%)	**4.64**	**.848**
When there are promotional prices such as discounts on coffee products increases the net, income generated due to improved sales	0(0%)	7(4.3%)	0(0%)	26(16.1%)	128(79.5%)	**4.71**	**.686**
Selling coffee products in different areas at different prices enhances coffee farmers to produce more coffee within the shortest period to meet the demands.	0(0%)	13(8.1%)	0(0%)	84(52.2%)	64(39.8%)	**4.24**	**.818**
Government involvement in international countries to improve the pricing levels has promoted coffee production.	0(0%)	13(8.1%)	0(0%)	36(22.4%)	112(69.6%)	**4.53**	**.859**
Average Mean						**4.42**	**0.89**

The results in Table 4.15 showed that coffee pricing had the highest average mean score of 4.42 and a standard deviation of 0.89. Coffee farmers agreed with a cohesive mean

of 4.71 and a standard deviation of 0.686 that when there are promotional prices such as discounts on coffee products increased the net, income generated due to improved sales. Another majorly agreed statement was that sale of unique coffee products that competitors did not have at an improved price reduced production costs to great lengths. This statement had a mean of 4.64 and 0.848. These two statements indicated what played majorly in the pricing of coffee was promotional activities and unique products. The coffee farmers did not agree that the high selling prices of coffee products due to improved quality increased gross income generation from coffee production. This statement had a mean of 3.85 and a standard deviation of 1.236. This indicated that hiking of prices due to improved quality of coffee pushed customers to other types of beverages products that would offer the same satisfaction at lower-prices. This information was also derived by Okech (2019) that indicated that one of the arrangements that coffee-producing institutions were always striking a balance between ensuring that their quality and prices were within the market prices of beverages to avoid losing market niche to other beverages.

The researcher interviewed managers on coffee pricing. The first question was on how coffee premium pricing in cooperative societies had assisted coffee farmers to be able to cover for their costs of production. The managers respondent that there were increased new customers, there was improved sales quantities and there was a retainment of old customers. The second question asked by the researcher was what ways had coffee penetration prices influenced the demand and supply of coffee products from cooperative societies. The managers responded by stating majorly that there was the clearance of stocks on time and reduced spoilage of coffee beans. The third question intension was knowing the contribution of coffee skimming prices towards innovation on coffee production in

cooperative societies. The respondents stated that there was increased revenue on coffee products; reduced losses emanating from low purchases; and stability of the market of cooperative societies.

The fourth question was on the account for local market sales as a result of coffee bundle pricing by managers. They answered by saying that there were increased sales, reduced storage costs, and reduced tax burden. The fifth and last question in this section was on how the coffee geographical prices affected the market preferences of coffee farmers in cooperative societies. Most of the managers were inclined on approving that there was consistency in supply and slightly improved quality of coffee beans. Ruch and Fay (2011) agreed that coffee products have been evolving as time progresses. Their evolution was anchored on the size, morphology, and distribution aspects. Therefore, based on these facts, (Ruch and Fay, 2011) agreed that time quality would improve due to continuous growth in research interest by various stakeholders. This would see to it that prices would be tagged based on where coffee varieties emanated and demand for quality by consumers. Also, Coffee Business Intelligence (2018) agrees that this has been evidenced in Africa at large as various research initiatives have been enforced on various methods of adding value to coffee products hence placing Africa in top position in the global coffee market.

4.9 Influence of Corporate Governance on Revival of Coffee Production

The fourth specific objective of the study was to measure the influence of corporate governance of coffee cooperative societies on reviving coffee production in Meru county

Kenya. This study considered various elements such as the board of directors, members, internal controller, audit committee, and management. There were both questionnaires and interviews conducted to gather information on this objective. On the questionnaire part, the respondents were required to 1-Strongly disagree, 2-disagree, 3- Neither agree nor disagree, 4- Agree and 5- Strongly agree with the statements. The outcomes were stated in Table 4.16 in appendix VII.

According to Table 4.16 in appendix VII, Corporate governance's influence on the revival of coffee production had an average mean of 4.26 and a standard deviation of 0.99. The coffee farmer agreed that auditing of cooperative society's activities ensured there was a reduction of unnecessary expenses incurred during coffee selling to increase the profit of the farmers. It had a mean of 4.83 and a standard deviation of 0.576. However, coffee farmers had a contrary opinion that decisions made by the board of directors to outsource for more markets increased the gross income generation from coffee production. With a mean of 3.72 and a standard deviation of 1.22, they interjected implying that the board of directors' decisions to outsource for more markets were ineffective. Columbia Center for Sustainable Investment (2019) warned against coffee institutions spreading themselves too far as they searched for new markets without first exhausting the local markets. This was because cooperative societies needed to have a stable local market to act as caution when new markets did not work out as expected.

The researcher had also interviewed managers in this section. There were five questions asked on corporate governance in the interviews. The first question asked was on the incorporation rate of gender balance in your board of directors. Two responses stood up. These were for every 2 males there was one female (2/3 gender rule) and for everyone

male, there was one female. The second question was on value contributions internal controlling department in corporative societies had contributed towards reviving coffee production. The results given indicated that various risks have been mitigated; there was more effective resource allocation and there were reduced wastages.

The third question was on the measures put into place to avoid embezzlement of funds in the cooperative societies. Managers responded by indicating that there were an auditing department, multiple cooperative society account signatories, and different departments that participated to approve the entire process related to funds. On the fourth question, the researcher inquired on what other cooperative societies had managers networked with to ensure they were at par with what was happening around them. 6 managers confirmed that they had partnered with societies within the Meru county, 3 managers confirmed that they had partnered with societies in different counties and only one society confirmed that they had partnered with international societies. The fifth question entailed on managers explaining how coffee farmers' members were involved in the decision-making process.

Major responses were indicated that for every policy to pass in a cooperative society a farmer elected as a representative participated and there was notification of all upcoming projects for farmer opinions. Harvard Law School (2016) on the philosophies of corporate governance gives various measures of ensuring funds are not misappropriated and various functions of departments that lead to improved governance of stakeholder's resources in an organization. Coming close to Kenya, Global Coffee (Platform, 2016a) indicated measures that ought to be followed by the various national coffee platform to ensure that Public or private firms are aligned for a sustainable coffee sector. These measures spell the

functions of various departments in a firm. Ismael and Roberts (2018) explained that internal audit had become more compulsory rather than voluntary since firms that have had a history of audit being conducted on their affairs tend to have more openness on their functions and they have accumulated years of success in their operations.

4.10 Influence of Strategies on Revival of Coffee Production

The researcher inquired to understand the influence of the four strategies combined had on the revival of coffee production. That was, how land ownership, coffee financing, coffee pricing, and corporate governance influenced the revival of coffee production. There were both questionnaires and interviews conducted to gather information on this objective. On the questionnaire part, the respondents were required to 1-Strongly disagree, 2-disagree, 3- Neither agree nor disagree, 4- Agree and 5- Strongly agree with the statements. The findings were given in Table 4.17.

Table 4.17

Descriptive Statistics of Revival of Coffee Production

Statements N=161	1	2	3	4	5	Mean	Std Dev

Nature of land ownership structure has played a part in coffee production in Meru county	10(6.2%)	29(18.0%)	1(0.6%)	77(47.8%)	44(27.3%)	**3.72**	**1.21**
Access and availability of coffee financing influences revival of coffee production in Meru county	0(0%)	17(10.6%)	2(1.2%)	82(50.9%)	60(37.3%)	**4.15**	**.889**
The pricing of coffee products impacts the revival of coffee production in Meru county	0(0%)	8(5.0%)	0(0%)	33(20.5%)	120(74.5%)	**4.65**	**.728**
The kind of corporate governance in our coffee cooperative society helps to revive coffee production in Meru county	0(0%)	10(6.2%)	2(1.2%)	18(11.2%)	131(81.4%)	**4.68**	**.787**
Average Mean						**4.42**	**0.89**

From the closed-ended questionnaires' results derived in Table 4.17, the researcher discovered that the influence of the four strategies combined on the revival of coffee production had an average mean of 4.42 and a standard deviation of 0.89. The coffee farmers majorly consented that the kind of corporate governance in coffee cooperative

societies helped to revive coffee production in Meru County. This agreement had a mean of 4.68 and a standard deviation of 0.787. The coffee farmers did not consent to the fact that the nature of land ownership structure played a part in coffee production in Meru County. This statement had the lowest mean of 3.72 and a standard deviation of 1.21. Looking at suggestions that farmers thought should be done to revive the production of coffee in Meru County, coffee farmers gave several of them. However, they were all related to tax relief on coffee products from the government, more financing, more farmers' participation in coffee policies, and more markets for coffee products. Krishnan (2017) argued that the ownership factor of land was insignificant in sustaining coffee production. What was important like economies of scale applied at a specific size of land? On the one hand, a coffee farmer may have huge land and lack resources to make the best out of it. On the other hand, a coffee farmer may have a small piece of land but maximumly utilizes the land to achieve increased coffee production.

The research had also consulted managers on the same aspect through interviews. The researcher asked only two questions. The first question required managers to state the current status of coffee production rate in terms of quality by farmers in this cooperative society. Managers indicated that Arabica coffee was doing so well, followed by Robusta coffee variety. These two were major varieties farmed by coffee farmers in Meru County. The last question was on the strategies that had been put into place to revive coffee production in cooperative societies. Managers agreed that there should be increased research; more funding opportunities to farmers; training to farmers on modern ways of farming coffee; more modern coffee variety and hiring of machinery to coffee farmers.

4.11 Revival of Coffee Production

The researcher analyzed coffee production in cooperative societies in Meru County. Coffee production indicators included such as production volume, gross income, production cost, turn over, and net income from 2017 to 2019. The data that was gotten from the analysis was given in Table 4.18.

Table 4.18

Coffee Production Indicators

Indicator	**N**	**Mean**	**Std Dev**
Production volume	13	4.23	0.46
Gross income	13	4.11	0.62
Production cost	13	3.23	1.21
Turn over	13	3.22	1.34
Net income	13	2.66	1.67
Average		**3.49**	**1.06**

According to Table 4.18, the results indicated that coffee production in Meru county was done on average whereby the average mean was 3.49 and the standard deviation was 1.06. The results indicated that there was a very high production volume which had a mean of 4.23 and a standard deviation of 0.46. The gross income derived from the production was still high with a mean of 4.11 and a standard deviation of 0.62. However, the net income was very low. The mean score for all the 13 cooperative societies in Meru County was 2.66 and a standard deviation of 1.67. This can be concluded that farmers were producing coffee but the income that reached their way was very minimal as compared to

the input they had invested in the coffee production process. These were similar results derived by Kamakia (2016) who discovered that income generated from coffee production in Kirinyaga was not fully benefiting the coffee farmer; similar to (Kaura et al., 2016). On coffee farmers in Kangundo sub-county, Machakos county, Kenya; and (Kenani and Bett, 2019) on farmers in Kisii county, Kenya.

4.12 Regression Analysis

The study assessed the level of influence that the independent variables had on the dependent variable. That was, the level of influence that land ownership, coffee financing, coffee pricing, and corporate governance had on the revival of coffee production. To achieve this, the researcher analyzed their model summary and variance.

4.12.1 Model Summary

The researcher was interested in examining the influence of land ownership on reviving coffee production in cooperative societies in Meru county Kenya. This was done by testing the first hypothesis. The hypothesis stated that land ownership did not significantly influence the reviving of coffee production in cooperative societies in Meru county Kenya. Table 4.19 gave the results.

Table 4.19

Model Summary of Land Ownership

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate
Land ownership	.113[a]	.013	.006	1.98577

a. Predictors: (Constant), Land ownership

The model summary of land ownership in Table 4.19 indicated that R-value was 0.113 and R-square was 0.13.

The researcher had a second objective to determine the influence of coffee financing on reviving coffee production in cooperative societies in Meru county Kenya. This was done by analyzing the hypothesis of this objective. The hypothesis stated that coffee financing did not significantly influence reviving coffee production in cooperative societies in Meru county Kenya. The outcome was indicated in Table 4.20.

Table 4.20

Model Summary of Coffee Financing

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate
Coffee financing	.771[a]	.594	.592	1.27268

a. Predictors: (Constant), Coffee financing

The model summary of coffee financing in Table 4.20 indicated that R-value was 0.771 and R-square was 0.594. This confirmed that coffee financing predicted 59.4% of the revival of coffee production.

The researcher had a third objective of evaluating the influence of coffee pricing on reviving coffee production in cooperative societies in Meru county Kenya. This was done by analyzing the hypothesis of this objective. The hypothesis stated that coffee pricing did not significantly influence reviving coffee production in cooperative societies in Meru county Kenya. Table 4.21 showed the results derived.

Table 4.21

Model Summary of Coffee Pricing

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate
Coffee pricing	.932[a]	.869	.868	.72273

a. Predictors: (Constant), Coffee pricing

The model summary of coffee pricing in Table 4.21 indicated that R-value was 0.932 and R-square was 0.869. This confirmed that coffee pricing predicted 86.9 % of the revival of coffee production.

The researcher had a fourth objective of measuring the influence of corporate governance of coffee cooperative societies on reviving coffee production in Meru county Kenya. This was done by analyzing the hypothesis of this objective. The hypothesis stated that corporate governance of coffee cooperative societies did not significantly influence reviving coffee production in cooperative societies in Meru county Kenya. Table 4.22 indicated the results.

Table 4.22

Model Summary of Corporate Governance

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
Corporate governance	.859[a]	.738	.737	1.02199

a. Predictors: (Constant), Land ownership, Coffee financing, Coffee pricing, Corporate governance

The model summary of coffee pricing in Table 4.22 indicated that R-value was 0.859 and R-square was 0.738. This confirmed that corporate governance predicted 73.8 % of the revival of coffee production. The results were ascertained in Table 4.19.

4.12.1 Variance Analysis

In determining whether to reject or accept the null hypothesis of variables, the researcher conducted a variance analysis of each variable. Inland ownership, the statistical significance value was 0.155 which was more than 0.05. This was indicated in Table 4.23

Table 4.23

ANOVA for Land Ownership

Model		Sum of Squares	Df	Mean Square	F	Sig.
Land ownership	Regression	8.048	1	8.048	2.041	.155[b]
	Residual	626.983	159	3.943		
	Total	635.031	160			

a. Dependent Variable: Revival of coffee production

b. Predictors: (Constant), Land ownership

The results in Table 4.23 enabled the researcher to fail to reject the null hypothesis that land ownership did not significantly influence reviving coffee production in cooperative societies in Meru county Kenya.

In coffee financing, the statistical significance value was 0.000 which was less than 0.05. Table 4.24 clearly shown the outcome as derived from the analysis.

Table 4.24

ANOVA for Coffee Financing

Model		Sum of Squares	Df	Mean Square	F	Sig.
Coffee financing	Regression	377.495	1	377.495	233.062	.000[b]
	Residual	257.536	159	1.620		
	Total	635.031	160			

a. Dependent Variable: Revival of coffee production

b. Predictors: (Constant), Coffee financing

The outcome from Table 4.24 facilitated the researcher to reject the null hypothesis and accepted the alternate hypothesis. It was therefore clear that coffee financing significantly influenced the reviving coffee production in cooperative societies in Meru county Kenya.

In coffee pricing, the statistical significance value was 0.000. This aided the researcher in rejecting the null hypothesis and accepted the alternate hypothesis. Table 4.25 showed the outcome.

Table 4.25

ANOVA for Coffee Pricing

Model		Sum of Squares	Df	Mean Square	F	Sig.
Coffee pricing	Regression	551.980	1	551.980	1056.755	.000[b]
	Residual	83.051	159	.522		
	Total	635.031	160			

a. Dependent Variable: Revival of coffee production

b. Predictors: (Constant), Coffee pricing

From Table 4.25, it was therefore clear that coffee pricing significantly influenced the reviving coffee production in cooperative societies in Meru county Kenya.

Incorporate governance the statistical significance value was 0.000. The results of corporate governance are indicated in Table 4.26.

Table 4.26

ANOVA for Corporate Governance

Model		Sum of Squares	Df	Mean Square	F	Sig.
Corporate governance	Regression	468.961	1	468.961	448.997	.000[b]
	Residual	166.070	159	1.044		
	Total	635.031	160			

a. Dependent Variable: Revival of coffee production

b. Predictors: (Constant), Corporate governance

According to Table 4.26, the null hypothesis was rejected, and accepted the alternate hypothesis. Therefore, corporate governance of coffee cooperative societies significantly influenced reviving coffee production in cooperative societies in Meru county Kenya.

4.13 Multiple Regression Analysis

The researcher was tasked with analyzing the combined model summary, variance analysis for all variables, and regression coefficients of the model of the study.

4.13.1 Combined Model Summary

The general model summary of all variables combined as indicated in Table 4.27. R-value was 0.942 and the adjusted R-squared was 0.884 because the P-value for constant is insignificant, as indicated in Table 4.29. This implied that when the four strategies were combined, predicted 88.7% of reviving coffee production in cooperative societies in Meru county Kenya.

Table 4.27

Model Summary of Combined Variables

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
1	.942[a]	.887	.884	.67880

a. Predictors: (Constant), Land ownership, Corporate governance, Coffee financing, Coffee pricing

4.13.2 Combined Analysis of Variance

The researcher assessed the combined analysis of variance as shown in table 4.28. The analysis of variance of all strategies had a significant value of 0.000 which was less than 0.05. This implied that the four strategies when combined were positive and significant towards the revival of coffee production in cooperative societies of Meru County.

Table 4.28

ANOVA for Combined Variables

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	563.151	4	140.788	305.550	.000[b]
	Residual	71.880	156	.461		
	Total	635.031	160			

a. Dependent Variable: Revival of coffee production
b. Predictors: (Constant), Land ownership, Coffee financing, Coffee pricing, Corporate governance

4.13.3 Regression Coefficient

The researcher analyzed the regression coefficient of the variables in this study. The results as indicated in Table 4.29 that land ownership had a β=.001, p =.011; coffee financing β=.057, p =.008; coffee pricing β=.755 p =.014; corporate governance β=.174, p =.020. This was elaborated that when land ownership, coffee financing, coffee pricing, and corporate governance was tested separately, they were statistically significant but when they were combined, they all became insignificant, and only coffee pricing was statistically significant.

Table 4.29

Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	6.459	.851		.594	.232
Land ownership	.001	.013	.001	.049	.011

Coffee financing	.022	.025	.057	.847	.008
Coffee pricing	.723	.056	.755	.998	.014
Corporate governance	.125	.032	.174	.879	.020

a. Dependent Variable: Revival of coffee production

The general model of this study was depicted as coffee production = C + β1LO + β2ICF + β3ICP + β3ICG + e. Where LO was land ownership; CF was coffee financing; CP was coffee pricing; CG was coffee governance; C was constant coefficient (intercept); β was the slope coefficients; I was the number of cooperative societies; t was the period, and Ɛ was error term. It was noted that land ownership is individually not significant, but when combined with other factors, it became significant. When equated with the coefficients, coffee production = 6.459C+ 0.001LO+0.57CF+0.755CP+0.174CG +0.851e. This meant that when one unit of either LO+CF+CP+CG was added, this increased coffee production by 6.459+ 0.001+0.57+0.755+0.174. This can be concluded that in multiple regression analysis, the four strategies concentrated in this study which was land ownership, coffee financing, coffee pricing, and corporate governance, significantly affected the revival of coffee production.

Njomo and Margaret (2016) named financing, pricing, and effective governance as some of the factors that promote the massive production of soft drinks. In as much as they dwelt on soft drinks, the key strategies which were similar to the ones in consideration seemed to play dominance towards the revival of production. Land ownership factor has also been key towards contributing towards coffee production nations located in South Africa and East Africa as evidenced by another past study of (Nsabimana & Tirkaso, 2020). Therefore, the revival of coffee production in Meru county can actually utilize land ownership, coffee financing, coffee pricing, and corporate governance for effectiveness

since they have not only been tested on coffee production but also on other products and are working.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter indicated the summary, conclusion, and recommendation of the entire study. To begin with, the general objective of this study was to analyze strategies for reviving coffee production in cooperative societies in Meru county Kenya. The study had noticed a trend of drawbacks facing the coffee production process such as poor payments made to coffee farmers. This was attributed to lack of financing, low pricing of coffee products, high cost of inputs, and non-participation of women in resolution-making, poor communal supremacy at grower's institutions, poor governance, and poor quality of coffee seeds varieties. Therefore, the researcher investigated four objectives which were the influences land ownership, coffee financing, coffee pricing, and corporate governance had on the revival of coffee production in Meru County. The study was guided by three theories which were entitlement theory which guided inquiries into land ownership; stakeholder theory which guided inquiries into both coffee financing and marketing, while agency theory-guided inquiries into corporate governance.

A descriptive survey research design was used in the study. The respondents were coffee farmers and managers from coffee cooperative societies in Meru County. A sample of 13 cooperative societies in Meru County was considered. Data collection was done using closed-ended questionnaires and interviews which were applied to coffee farmers and managers respectively. Coffee farmers will be sampled using simple random sampling while all managers of all the sampled cooperative societies participated in the study. The

data collected was analyzed quantitatively using descriptive statistics such as mean, percentage, and standard deviation. Univariate regression and multiple regression were used to test the hypothesis of the study. Tables, graphs, and detailed explanations were used to present the final results of the study.

5.2 Summary of the results

The analyzed data as indicated in chapter four gave several results. The researcher gave the results in a nutshell of the results as indicated for each of the objectives.

5.2.1 Land ownership

The first specific objective of the study was to examine the influence of land ownership on reviving coffee production in cooperative societies in Meru county Kenya. This specific objective had various indicators such as sole ownership, joint tenancy, joint tenancy with rights of survivorship, communal ownership, and corporation ownership. The influence of land ownership on the revival of coffee production was low. It had an average mean of 2.85 and a standard deviation of 1.28. This was the least outcome derived in this study. The model summary of land ownership indicated that R-value was 0.113 and R-square was 0.13. This confirmed that land ownership predicted 13% of the revival of coffee production. On the interview responses given on land ownership, it was clear that there was a healthy competition by farmers, peaceful operations, and improved motivation to increase the coffee output. Interestingly farmers whose income varied with the size of land they owned increased more labor, capital, and effective resource inputs when the land was directly under their names as compared to when it was not.

5.2.2 Coffee financing

The second specific objective of the study was to determine the influence of coffee financing on reviving coffee production in cooperative societies in Meru county Kenya. This second objective had various types such as establishment loans, inputs loans, machinery loans, climate loans, and installment loans. Coffee financing influence of the revival of coffee production in Meru County was high with an average mean of 4.32 and a standard deviation of 0.77. The model summary of coffee financing indicated that R-value was 0.771 and R-square was 0.594. This confirmed that coffee financing predicted 59.4% of the revival of coffee production. The study had also conducted some interviews with the managers. Pertaining coffee financing, managers responded that most farmers searched for advances and overdrafts improve other miscellaneous costs such as transportation to cooperative societies which reduced turn-around time; machine loans which enabled farmers to use machinery to increase volumes; and inputs financing which enabled farmers to buy fertilizers which improved coffee quality.

5.2.3 Coffee pricing

The third specific objective of the study was to evaluate the influence of coffee pricing on reviving coffee production in cooperative societies in Meru county Kenya. To elaborate on it, different indicators considered were premium pricing, penetration pricing, skimming pricing, bundle pricing, and geographical pricing. Coffee pricing had the highest average mean score of 4.42 and a standard deviation of 0.89. The model summary of coffee pricing indicated that R-value was 0.932 and R-square was 0.869. This confirmed that coffee pricing predicted 86.9 % of the revival of coffee production. While being interviewed

managers came out strongly that effective coffee pricing had increased new customers; there were improved sales quantities and there was retainment of old customers; clearance of stocks on time which improved revenue and reduced spoilage of coffee beans

5.2.4 Corporate governance

The fourth specific objective of the study was to measure the influence of corporate governance of coffee cooperative societies on reviving coffee production in Meru county Kenya. This study considered various elements such as the board of directors, members, internal controller, audit committee, and management. Corporate governance's influence on the revival of coffee production had an average mean of 4.26 and a standard deviation of 0.99. The model summary of coffee pricing indicated that R-value was 0.859 and R-square was 0.738. This confirmed that corporate governance predicted 73.8 % of the revival of coffee production. On interviewing the managers, the gender balance rule of two males in every one female was adhered to. Having effective corporate governance had caused various risks being mitigated hence more effective resource allocation and reduced wastages.

5.3 Conclusion of the study

In the first hypothesis, the researcher accepted the null hypothesis that land ownership did not significantly influence reviving coffee production in cooperative societies in Meru county Kenya. This was concluded basically after the researcher realized through the results that the size and ownership structure of land was not very important but how it was utilized in coffee production. Based on the interview data, it was clear that healthy competition was lacking hence poor sustainability of coffee production. Coffee

farmers had minimal initiatives towards investing in labor, capital, and allocate resources reasonably since most of the land they had belonged to corporative societies.

In the second hypothesis, the study rejected the null hypothesis that coffee financing did not significantly influence reviving coffee production in cooperative societies in Meru county Kenya. The research gathered that how well a coffee farmer can access financing facilities play a significant role in improving coffee production at various stages. Coffee farmers in Meru County had challenges such as low credit qualification; lack of financial knowledge; and lack of guarantors. Besides, out of the responses given in the interview, it was concluded that in terms of funding, there was still a long way to go especially towards mechanization of the coffee production process.

In the third hypothesis, the study rejected the null hypothesis that coffee pricing did not significantly influence reviving coffee production in cooperative societies in Meru county Kenya. Generally, there was consistency in supply and slightly improved quality of coffee beans; that there was a clearance of stocks on time; and reduced spoilage of coffee beans. Despite that, the results from the study proved that hiking of prices due to improved quality of coffee pushed customers to other types of beverages products that would offer the same satisfaction at lower-prices. The responses gathered on interviews painted a picture of a county that had low demand for the coffee beans due to low quality. This in turn was becoming expensive for coffee farming to clinch the immediate niche hence loss of revenue.

In the fourth hypothesis, the study rejected the null hypothesis that corporate governance of coffee cooperative societies did not significantly influence reviving coffee production in cooperative societies in Meru county Kenya. This was because for every

policy to pass in Meru county cooperative societies a farmer elected as a representative participated and there was notification of all upcoming projects for farmer opinions. However, a noticed trend was that the board of directors' decisions to outsource for more markets was ineffective. This was discovered through the interview that only one out of the rest was dealing with international markets directly. This can ultimately be concluded that management was not so vigorous towards sourcing for new markets of coffee products.

On the general overall model, it was noted that land ownership is individually not significant, but when combined with other factors, it became significant.

5.4 Recommendations of the study

The study gave various recommendations based on the results derived. These recommendations were categorized on land ownership, coffee financing, coffee pricing, and corporate governance. Beginning with land ownership the study recommended that coffee farmers should ensure that they take advantage of readily available cooperative societies' lands and maximize on coffee production. The cooperative societies should boost coffee production by the provision of hybrid coffee seedlings, organize with various stakeholders such as NGOs to supply their farmers with various inputs that are highly subsidized. Policies should also be enacted by the government to ensure that coffee-growing zones are protected to reduce encroachment by the real estate sector.

Coffee financing should be boosted majorly by the partnership of various financial institutions and cooperative societies so that their farmers can be considered when being granted various types of loans. Coffee farmers should ensure they equip themselves with financial knowledge by attending various seminars within or outside their Meru County to be sharp on where to seek financial aid when needed. Managers should provide various

platforms and pieces of training to their farmers on how they can position themselves to qualify in getting loans.

On the coffee pricing, coffee farmers should be interested in the different types of coffee pricing to offer innovative suggestions to coffee cooperative societies. Managers should be well versed with different price types and also be innovative enough to suggest new ones based on various locations and different quality of the coffee sold. The marketing department in a cooperative society should do more research on their current market base to see what prices are working and the ones that are not. The government should set up policies that will see to it that local coffee consumption has improved. This is because only 5% of coffee is consumed locally while 95% is exported.

In corporate governance, there should more realistically approaches and decisions made by the board of directors to ensure that they become effective. There should be more internal controls to regulate the various functions of a cooperative society. Policies should also be put into place to improve various management functions whereby there is no huge gap between the management and farmers. More farmers should also be incorporated into the decision-making process to facilitate a consented decision by all parties.

5.5 Suggestions of future studies

This study only concentrated on cooperative societies in Meru County. Future studies may opt to consider other areas such as other counties to establish whether the issues that are specifically facing those regions are similar to Meru County or different. Future studies may consider other types of strategies apart from land ownership, coffee financing, coffee pricing, and corporate governance.

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APPENDICES

Appendix I: Introduction letter

Eliphus Muchunku Sabari

BUS-3-0203-1/2016

0721863279

Dear sir/ madam,

RE: REQUEST FOR YOUR PARTICIPATION IN THE STUDY

I am a student at Kenya Methodist University pursuing masters of business administration -entrepreneurship option. The course requires one to research the area of specialization as a part of the curriculum. To fulfill that, I am researching the analysis of strategies for reviving coffee production in cooperative societies in Meru county Kenya.

I have identified you as a resourceful person in this study. Kindly fill in the attached questionnaire which will be collected in a week. Any information obtained for this study will be kept strictly confidential and will only be used for academic purposes. Do not write your name in the questionnaire. Your cooperation will be highly appreciated.

Yours faithfully,

Eliphus Muchunku Sabari
BUS-3-0203-1/2016

0721863279

Appendix II: Questionnaire for coffee farmers

Instructions

- Do not write your name on the questionnaire.
- Answer all questions to the best of your ability.
- Indicate with a tick in the space provided your choice of response and provide comments where applicable

PART A: Demographic information

a) What is your gender?

(a) Male […]

(b) Female […]

b) How long have you been a coffee farmer?

(a) Less than 1 year […]

(b) 2-5 years […]

(c) 6-10 years […]

(d) 11 years and above […]

c) How big is the land you produce coffee from?

(a) Less than 5 acres […]

(b) Less than 15 acres […]

(c) Above 15 acres […]

d) What type of land do you produce coffee from?

a) Ancestral land […]

b) Bought a land […]

c) Communal land […]

d) Sacco land […]

e) What type of land ownership document do you have to prove the answer in question' above?

a) Allotment letter […]
b) Freehold title […]
c) Lease title […]
d) Mortgage note […]
e) Deed of trust […]
f) No document […]
g) Any other, Specify _____

f) What is the name of the cooperative society do you belong to?

…….

Part B: Land ownership

This section has statements regarding the influence of land ownership on the revival of coffee production. Kindly respond with the response that matches your opinion. Kindly use the scale 1-Strongly disagree, 2-disagree, 3- Neutral, 4- Agree, 5- Strongly agree to rate your response on each statement in the table below by ticking as appropriate in the boxes using a tick (√) or cross mark (x).

Land ownership					
Statements related to land ownership	**Strongly disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly agree 5**
g) Coffee production from a land that you own increases your gross income as compared to using the land for other farming uses like banana farming.					

h)	Coffee volume production gets improved when you farm coffee as partners with other people unlike doing it alone					
i)	Partnering with people in coffee farming whereby in case of a misfortune, your kin can still represent you, motivates you to be responsible thereby reducing unnecessary wastages and costs.					
j)	Coffee farming in land owned by an organization such as a cooperative society increases your net income due to high chances of getting subsidized inputs					
k)	Involving your family in coffee farming in family land reduces the time taken to produce coffee.					
l)	Coffee farming on communal land increases annual yields					

m) Explain how the issue of land ownership affects the volume of coffee that you produce

_____

_____

_____

Part C: Coffee financing

This section has statements regarding the influence of land ownership on the revival of coffee production. Kindly respond with the response that matches your opinion. Kindly use the scale 1-Strongly disagree, 2-disagree, 3- Neutral, 4- Agree, 5- Strongly agree to rate your response on each statement in the table below by ticking as appropriate in the boxes using a tick (√) or cross mark (x).

Coffee financing					
Statements related to coffee financing	**Strongly disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly agree 5**
n) Loans received to establish a coffee plantation increases gross income generation from coffee production since one can prepare land well.					

o) Input loans such as getting fertilizer on loan improve coffee production volume					
p) Loan advanced to buy the required machinery in coffee farming helps to reduce production costs.					
q) Loans issued to reduce defenselessness of coffee trees, maintaining and increasing the productivity of coffee to negative climate change impacts increase net income.					
r) Installment loans give motivation to farmers to use the shortest time possible in coffee production to get money to pay the installments.					
s) Access and availability of land encourages coffee farmers to improve their production					

t) State here the financing challenge which makes you not to produce the desired capacity

_____

_____

_____

Part D: Coffee pricing

This section has statements regarding the influence of coffee pricing on the revival of coffee production. Kindly respond with the response that matches your opinion. Kindly use the scale 1-Strongly disagree, 2-disagree, 3- Neutral, 4- Agree, 5- Strongly agree to rate your response on each statement in the table below by ticking as appropriate in the boxes using a tick (√) or cross mark (x).

Coffee pricing					
Statements related to coffee pricing	**Strongly disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly agree 5**
u) High selling prices of coffee products due to improved quality increases gross income generation from coffee production					
v) Adjusting pricing of coffee products to gain entrance in new market motivates coffee farmers to improve coffee production volume					
w) Sale of unique coffee products that your competitors do not have at an					

	improved price reduces production costs to great lengths					
x)	When there are promotional prices such as discounts on coffee products increases the net, income generated due to improved sales					
y)	Selling coffee products in different areas at different prices enhances coffee farmers to produce more coffee within the shortest period to meet the demands.					
z)	Government involvement in international countries to improve the pricing levels has promoted coffee production.					

Part E: Cooperate governance

This section has statements regarding the influence of corporate governance on the revival of coffee production. Kindly respond with the response that matches your opinion. Kindly use the scale 1-Strongly disagree, 2-disagree, 3- Neutral, 4- Agree, 5- Strongly agree to rate your response on each statement in the table below by ticking as appropriate in the boxes using a tick (√) or cross mark (x).

Corporate governance					
Statements related to corporate governance	**Strongly disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly agree 5**
aa) Decisions made by the board of directors to outsource for more markets increases the gross income generation from coffee production					
bb) Member participation in decision making in a cooperative society motivates coffee farmers to improve coffee production volume					
cc) Risk management in a cooperative society reduces production charges due to few risks happening.					
dd) Auditing of cooperative society's activities ensures there is a reduction of unnecessary expenses incurred during coffee selling to increase the profit of the farmers.					
ee) There is motivation to produce more					

coffee volume when my cooperative society's management looks for a new market for our coffee produce					
ff) The special general meeting enables coffee farmers to know the progress of society					

gg) The general meeting gives the chance to ask questions related to coffee production management

hh) The management committee promotes fairness in how employees treat a coffee farmer.

ii) The supervisory committee gives direction on what measures should be taken when there is a problem in coffee production.

jj) The staff of cooperative society supports us in passing communications to us, receiving our coffee products, and giving us advice on how to improve our productivity.

The revival of coffee production in Meru county Kenya

This section has statements regarding the revival of coffee production. Kindly respond with the response that matches your opinion. Kindly use the scale 1-Strongly disagree, 2-disagree, 3- Neutral, 4- Agree, 5- Strongly agree to rate your response on each statement in the table below by ticking as appropriate in the boxes using a tick (√) or cross mark (x).

A revival of coffee production					
Statements related to the revival of coffee production	**Strongly disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly agree 5**
kk) Nature of land ownership structure has played a part in coffee production in Meru county					
ll) Access and availability of coffee financing influences revival of coffee production in Meru county					
mm) The pricing of coffee products impacts the revival of coffee production in Meru county					
nn) The kind of corporate governance in our coffee cooperative society helps to revive coffee production in Meru county					

Provide a suggestion here on what you think should be done to revive the production of coffee in Meru County.

_____

_____

_____

Appendix III: Interview guide for managers in coffee cooperative societies in Meru county

The purpose of this interview is to collect data on r on analysis of strategies for reviving coffee production in cooperative societies in Meru county Kenya. The data will be confidential and used for this research only.

Demographic Information

How long have you been in this cooperative society?

Land ownership

a) What are the effects of land structures owned by coffee farmers in this cooperative society?
b) How does the type of land ownership affect coffee volumes?
c) How is the general income level structure of coffee farmers relatable to the size of land they have?

Coffee financing

a) What are the effects of financing alternatives sought after by coffee farmers in this cooperative society?
b) To what extent does the type of financing affect coffee volumes?
c) How is the general income level structure of coffee farmers relate to the financing structure they have?

Coffee pricing and revival of coffee production in Meru county

a) How has coffee premium pricing in this cooperative society assisted coffee farmers to be able to cover for their costs of production?
b) In what way have coffee penetration prices influenced the demand and supply of coffee products from this cooperative society?
c) What has been the contribution of coffee skimming prices towards innovation on coffee production in this cooperative society?
d) How would you account for local market sales as a result of coffee bundle pricing?

e) How have the coffee geographical prices affected the market preferences of coffee farmers in your cooperative society?

Corporate governance in cooperative societies

a) What is the incorporation rate of gender balance in your board of directors?

b) What are some of the value contributions has the internal controlling department in your cooperative society contributed towards reviving coffee production?

c) What are the measures put into place to avoid embezzlement of funds?

d) As management, what other cooperative societies have you networked with to ensure you are at par with what is happening around you?

e) Explain how coffee farmers' members are involved in your decision-making process?

A revival of coffee production in Meru county

a) What is the current status of coffee production rate in terms of quality by farmers in this cooperative society?

b) What strategies have been put into place to revive coffee production in this cooperative society?

THANK YOU FOR YOUR TIME

Appendix IV: Secondary data collection instrument

Secondary data for the coffee cooperative societies in Meru county Kenya from 2017- 2019 will be collected as follows:

Name of the coffee cooperative society…….

Description				
	2017	**2018**	**2019**	**Average**
Production volume				
Gross income				
Production cost				
Turn over				
Net income				

Appendix V: Introduction Letter

KENYA METHODIST UNIVERSITY

P. O. Box 267 Meru - 60200, Kenya
Tel: 254-064-30301/31229/30367/31171
Fax: 254-64-30162
Email: info@kemu.ac.ke

August 3, 2020

Commission Secretary,
National Commission for Science, Technology and Innovations,
P.O. Box 30623-00100,
NAIROBI.

Dear sir/ Madam,

RE: ELIPHUS MUCHUNKU SABARI (BUS-3-0203-1/2016)

This is to confirm that the above named is a bona fide student of Kenya Methodist University, Department of Business Administration undertaking a Degree of Master of Business Administration . He is conducting research on, **'Analysis of Strategies for Reviving Coffee Production in Cooperative Societies in Meru County, Kenya.**

We confirm that his Research proposal has been defended and approved by the University.

In this regard, we are requesting your office to issue a permit to enable him collect data for his research.

Any assistance accorded to him will be appreciated.

Thank you.

13 AUG 2020

Dr. John Muchiri, PHD.
Director Postgraduate Studies

Appendix VI: Nacosti Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **775194**

Date of Issue: **07/August/2020**

RESEARCH LICENSE

This is to Certify that Mr.. Eliphus Sabari Muchunku of Kenya Methodist University, has been licensed to conduct research in Meru on the topic: ANALYSIS OF STRATEGIES FOR REVIVING COFFEE PRODUCTION IN COOPERATIVE SOCIETIES IN MERU COUNTY KENYA for the period ending : 07/August/2021.

License No: **NACOSTI/P/20/6140**

775194

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

Appendix VII: Table 4.16

Table 4.16

Descriptive Statistics of Corporate Governance

Statements **N=161**	**1**	**2**	**3**	**4**	**5**	**Mean**	**Std Dev**
Decisions made by board of directors to outsource for more markets increases the gross income generation from coffee production	10(6.2%)	29(18.0%)	1(0.6%)	77(47.8%)	44(27.3%)	**3.72**	**1.221**
Member participation in decision making in a cooperative society motivates coffee farmers to improve coffee production volume	0(0%)	17(10.6%)	2(1.2%)	82(50.9%)	60(37.3%)	**4.15**	**.889**
Risk management in a cooperative society reduces production charges due to few risks happening.	0(0%)	8(5.0%)	0(0%)	33(20.5%)	120(74.5%)	**4.65**	**.728**
Auditing of cooperative society's activities ensures there is a reduction of unnecessary expenses	2(1.2%)	1(0.6%)	0(0%)	17(10.6%)	141(87.6%)	**4.83**	**.576**

incurred during coffee selling to increase the profit of the farmers.							
There is motivation to produce more coffee volume when my cooperative society's management looks for new market of our coffee produce	2(1.2%)	18(11.2%)	0(0%)	28(17.4%)	113(70.2%)	**4.44**	**1.036**
Special general meeting enables coffee farmers to know the progress of the society	10(6.2%)	29(18.0%)	1(0.6%)	77(47.8%)	44(27.3%)	**3.73**	**1.241**
General meeting gives the chance to ask questions related to coffee production management	5(3.1%)	21(13.0%)	0(0%)	36(22.4%)	99(61.5%)	**4.26**	**1.165**
The management committee promotes fairness in how employees treat a coffee farmer.	0(0%)	10(6.2%)	2(1.2%)	18(11.2%)	131(81.4%)	**4.68**	**.787**
The supervisory committee gives direction on what measures should be taken when there is a problem in coffee production.	2(1.2%)	18(11.2%)	0(0%)	28(17.4%)	113(70.2%)	**4.44**	**1.036**

The staff of cooperative society supports us in passing communications to us, receiving our coffee products, and giving us advice on how to improve our productivity	10(6.2%)	29(18.0%)	1(0.6%)	77(47.8%)	44(27.3%)	**3.72**	**1.221**	
Average Mean						**4.26**	**0.99**	