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SOCIAL CAPITAL, ACCESS TO MICROFINANCE AND QUALITY POST-HARVEST HANDLING IN COFFEE GROWING IN BUIKWE DISTRICT

BY

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DECLARATION

I declare that this Research Dissertation titled – **Social Capital, Access to Microfinance and Quality Post-Harvest Handling in Coffee Growing"** is entirely my own work, and has not been submitted as an exercise for a degree at this or any other university. And that this research has been carried out in compliance to the ethical requirements of the School of Research and Graduate Studies of Makerere University. I have also acknowledged all the work referred to both in text and in the reference section.

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APPROVAL

We the undersigned hereby confirm that we have supervised and approved for examination this Master's Dissertation entitled "*Social Capital, Access to Microfinance and Quality Post-Harvest Handling in Coffee Growing*" by Nabaloga Catherine 2017/HD10/3105U and we have certified that it is in accordance with the requirement for Makerere University postgraduate research report.

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List of Abbreviations

AMFIU	Association of Microfinance Institutions of Uganda
BRCFS	Buikwe Riis Coffee Farmers' SACCO Limited
FGD	Focus Discussion Group
FAO	Food and Agriculture Organization
ICO	International Coffee Organization
IFC	International Financial Corporation
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MFIs	Micro-Finance Institutions
MFSC	Micro-Finance Support Centre
MUBS	Makerere University Business School
SACCOs	Savings and Credit Cooperative Organizations
UBOS	Uganda Bureau of Statistics
UCDA	Uganda Coffee Development Authority
VSLAs	Village Savings and Loans Associations

Abstract

Uganda is one of the biggest coffee growers in Africa. However due to poor post-harvest handling practices, Uganda is slowly losing its international market share. The quality of the coffee produced is below the world standards. The study explored how access to microfinance mediates the relationship between social capital and quality post-harvest handling in coffee growing.

The study used a mixed methods approach. The exploratory sequential mixed methods design was characterized by an initial qualitative phase of data collection and analysis obtained from seven (7) respondents, followed by a phase of quantitative data collection and analysis obtained from 200 respondents. A sample of 242 respondents was selected from the study population of 647 coffee farmers from Buikwe Riis Coffee Farmers' SACCO Limited (BRCFS); however, the actual respondents were 200, giving a response rate of 83%. Data were collected using in-depth interview guide and a self-administered questionnaire and, the results were analyzed using thematic analysis for the qualitative results and SPSS for the quantitative results.

The study has three major findings. First, social capital improved farmers' access to capital. Second, the functionality of farmer networks is accentuated by reciprocity of networks, trust and knowledge sharing. Third, through networks, farmers are able to share knowledge and carry out collective initiatives that helped them improve their post-harvest handling practices. The results also indicated that farmers improve quality post -harvest through access to adequate loan sizes at low interest rates and with favorable terms and conditions. Most farmers also indicated that the ease of access to microfinance by farmers enabled them to invest in the inputs that proved vital in improving their coffee post-harvest management activities. The qualitative findings further, established that being in a social group enhances access to microfinance, which improves quality post-harvest handling. The quantitative results also revealed that social capital among coffee farmers through social networking, information sharing and trust positively and significantly influences quality post-harvest handling in terms of processing, storage, value addition and transportation, while access to microfinance indicated a positive and statistically insignificant effect on quality post-harvest handling. The partial mediation effect of access to microfinance on the relationship between social capital and quality post-harvest handling was confirmed.

The study recommends BRCFS to encourage the coffee farmers to join farmer groups in order to increase their social network that will enable them to improve on trust and improved knowledge sharing which will improve on the quality of the post-harvest handling practices. The study recommends that network leaders should encourage and nurture trust among members so that they can actively participate in productive goals such as post-harvest handling. Access to microfinance can also be improved through offering favorable financing mechanisms such as through grants and other support schemes that are customized to coffee farming credit-based service that do not constrain farmers.

CHAPTER ONE

1.0 Introduction

This Section presents the background to the study, statement of the problem, purpose of the study, specific objectives, and research questions, scope of the study and the significance of the study.

1.1 Background to the Study

Coffee is second most traded commodity in the world after oil (Gonzalez & Gutierrez, 2012). Coffee farmers require ideal post-farm related factors especially where it is widely grown (FAO, 2018). In dominant coffee economies, post-harvest activities shape coffee production (ICO, 2010). Post-harvest handling activities such as harvesting, drying, storage, transportation, processing and marketing are important for coffee production. These activities demand for excessive capital and yet farmers' have limited access to capital for farming (Joost, Shambachew, Mare, Mugenzi & Mukwana, 2018). Approximately 56.1% coffee farmers rely on microcredit to fund coffee activities (ICO, 2010). Since it is hard for farmers to access funds for post-harvest handling, farmers tend to form support groups in form of social networks to help them mobilize finances among themselves but to also use the groups formed as a collateral security to access finance. The support groups constitute into social capital (Joost *et al.*, 2018).

The social capital theory developed by Bourdieu and Putnam in 1983 highlights the benefits of social capital in groups (Portes, 2011). It posits that social relations simplify individuals' challenges by facilitating income distribution (Light & Dana, 2013). Through bonding, bridging and linking individuals resolve common causes (Tristan & Widén-Wulff, 2008). Coffee farmers using their co-operative groups to advocate for favorable financing terms and to penetrate new

markets illuminate the suitability of the social capital theory in this context. Farmers join co-operatives to facilitate post-harvest coffee handling. Additionally, co-operatives, help farmers to access financing (Poli, 2016), specifically, farmers access to microfinance credit to boost agricultural production and post-harvest handling (Mutebi et al, 2018). This study focuses on MFI services (tier IV), including: savings and credit cooperatives (SACCOs); credit-only microfinance, non-governmental organizations (NGOs); private businesses and individuals engaged in financial services (including moneylenders); and other community-based and informal financial groups, such as village savings and loan associations (VSLAs). Therefore, co-operatives are used as a collective bargaining tool, linking farmers to microfinance institutions (FAO, 2016), which fund in value addition activities (Hong *et al*, 2018).

Despite being one of the largest coffee producing countries, the Uganda's coffee industry is marred with post-harvest challenges, which compromise the quality of coffee it produces (MAAIF, 2017). For instance, in 2018, Uganda produced 4,900 million tons of coffee (ICO, 2018), but only 34% of this was processed and reached the market. Coffee Post-harvest handling activities such as drying, shelling, treatment and storage are often compromised (Asea. *et al.,* 2014). With exception of a few cooperatives such as Bugisu Co-operative Union and Banyakole Kweteerana Co-operative, many of them have constricted their operations. Consequently, individual farmers have failed to finance their post-harvest activities. While MFIs have made efforts to facilitate farmers through agricultural loans (MFSC, 2016), the post-harvesting stage (MAAIF, 2016) is still ignored. Yet social capital, bargaining power is a mitigative factor, to enhance agro-based economies (Anastasia *et al.*, 2015). This implies that full benefits of social capital are not well explored. This study, therefore seeks to explore how access to microfinance and social capital support account for the post-harvest handling quality of coffee.

1.2 Problem statement

Coffee is by far the largest export product of Uganda, accounting for 20% of export revenues (UBOS, 2019). With approximately 1.3 million households, Uganda has the largest number of coffee farming families in the world. In addition, Uganda is second to Ethiopia in Coffee production in Africa, however, the quality of returns from coffee beyond the farm are not ideal (UCDA, 2018; Mcdonnell, 2017). The Government of Uganda and other key partners' have offered interventions through agricultural financing initiatives such as entandikwa, prosperity for all, agriculture credit facility (ACF), the medium-term competitive strategy and rural financial services programme among others, yet access to credit by most farmers has remained very low in the region of about 10 percent. In 2018, coffee output in Uganda decreased to 29.15% and coffee exports fell by 18.6% (UCDA, 2018; ICO, 2019). In Buikwe, while 30.5% of the population is actively engaged in coffee production, their post-harvesting activities are still poor, characterized by huge harvest losses (UBOS, 2017; UCDA, 2017). The ability to address post-harvesting coffee challenges is capital intensive and may require farmers to work as a group (networks) to address some of the loopholes. The Government of Uganda has encouraged farmers to join MFIs to get access to credit for their farm activities. It is however unclear how this social capital facilitates access to capital which translates into improved post-harvest handling of coffee. It is for this reason that the study seeks to explore how access to microfinance and social capital improve quality post-harvest handling activities among coffee growers in Buikwe District.

1.3 Purpose of the study

The study intended to explore how access to microfinance and social capital influence quality post-harvest handling in coffee growing in Buikwe District.

1.4 Research Objectives

i. To examine how social capital among coffee farmers improves quality post-harvest handling.

To explore how access to microfinance among coffee farmers' influences quality post-harvest handling.

ii. To establish how access to microfinance mediates the relationship between social capital and quality post-harvest handling of coffee among farmers in Buikwe District.

1.5 Research Questions

i. How does social capital among coffee farmers improve quality post-harvesting handling?
ii. How does access to microfinance among coffee farmers' influences quality post-harvesting handling?
iii. What is the mediating effect of access to microfinance on the relationship between social capital and quality post-harvest handling of coffee among farmers in Buikwe District?

1.6 Scope of the study

1.6.1 Geographical scope

The study was undertaken among smallholder coffee farmers in Buikwe District, in Central region of Uganda. Buikwe District is made up of eight Sub-counties, and 4 town councils. It has 422,771 people, out of whom 28,621 are Coffee Farmers (UBOS, 2017; UCDA, 2017). The study concentrated on Buikwe District because it is one of the leading coffee producing districts in Uganda. The study focused on Buikwe Riis Coffee Farmers SACCO, which is a leading coffee social association in Buikwe District.

1.6.2. Content scope

The study focused on social capital, access to microfinance and quality post-harvest handling of coffee farming activities. Specifically, focus was on how social capital and access to microfinance influence quality post-harvest handling of coffee. These aspects were explored because they were important in influencing the quality of coffee produced and the returns from the coffee activities to the farmers in the study area.

1.6.3 Time Scope

The study was conducted in the month of March 2019 and more data were collected in February 2021 where farm visits to Buikwe Riis Coffee Farmers' SACCOs were undertaken.

1.7 Significance of the study

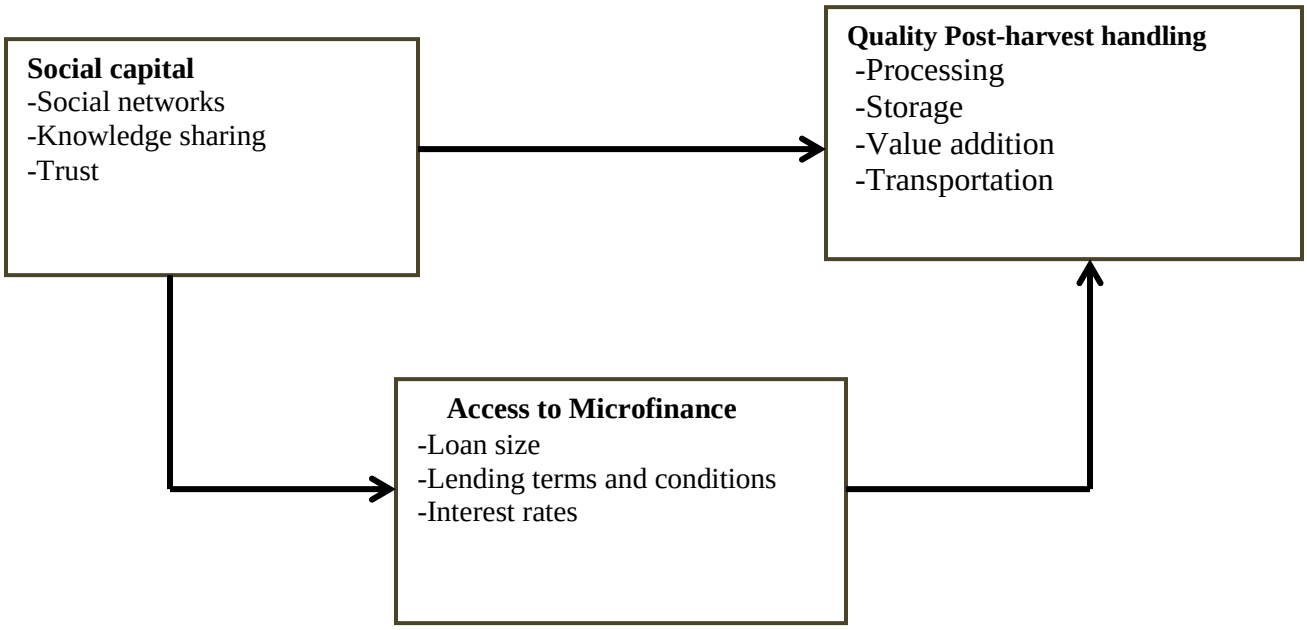
i) The study will make recommendations that will attract the attention of the government and other stakeholders to help in financing, farmer training, and extension services among others to see that production of coffee increases.

ii) The findings of this study will help farmers and other stakeholders in coffee farming know the methods and technologies of handling coffee after harvesting it. This will improve the quality of coffee produced in general.

iii) The study will also be important to academicians and researchers, as it would add to the existing body of knowledge on the access to microfinance, social capital and post-harvest handling, hence acting as a source of literature for future related studies.

1.8 Conceptual framework

Figure 1.1 Conceptual framework



Source: Adopted and modified by the Researcher: (Sagarik, 2016; Heemskerk & Wennink, 2015; UCDA, 2017).

Model explanation

In this study, as shown in Figure 1.1, social capital is the independent variable measured by social networks, trust and knowledge sharing. On the other hand, access to microfinance credit is the mediating variable measured by loan size, interest rates, terms and conditions. Social capital bonds farmers socially, thus enabling them to access microfinance services. Farmers of similar interests mobilize themselves in social networks in the form of a group guarantee, and this influences their ability to access microfinance to improve quality postharvest handling practices. The possibility of farmers attaining quality coffee post-harvesting handling is the dependent variable, being examined on the attributes of improvements in processing, storage, Value Addition and transportation.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews literature of relevance from studies carried out by various scholars on Access to Microfinance, Social Capital and Quality Post Harvest Handling practices.

2.1 Theoretical Review

The study drew its reference from the social capital Theory developed by Pierre Bourdieu (1986). Social capital theory could be helpful to design more appropriate social policies, invest resources, and promote overall balanced and sustainable development. The theory of social capital is particularly rooted on the notion of trusts, norms, and informal networks and it believes that 'social relations are valuable resources (Light & Dana, 2013). The social capital theory draws much attention on the social interactions, and income distribution traced as far back as times of Karl Marx.

This study also envisages its operationalizing of social capital theory from the view of Fukayama (2002) that social interactions generate social capital, which is the ultimate outcome when people work together for common purposes in groups and organizations. Therefore, social ties develop as people work in groups. Several studies have dwelt on the theory of social capital to explore a social behavior (Lin, 2012; Marco & Patuelli, 2016). This makes the theory of social capital a straightforward measure of social capital.

Social capital theory suggests that social relationships among organizational members and with outside actors confer vital resources such as information, advice, social support, and friendship (Burt, 1997), all important preconditions for information sharing, knowledge creation, risk-taking, and innovation (Chen *et al*, 2016), Leaders in such cooperatives manage and influence a vital part of organizational resources through social capital (Susano, 2013). The current study

will also explore social capital through examining collective innovations, social information networks and knowledge sharing attributes and how relevant are they in enhancing farmers' abilities in post-harvest handling activities regarding coffee production in Buikwe District.

2.2. Conceptual Review

2.2.1 Social capital

Agahi and Karam (2012) define social capital as connections among individual social networks and the norms of reciprocity and trustworthiness that arise from them. Martin Gaag and Martin Webber. (2008) also stresses that social capital is 'the social relationships in which individuals and communities are involved, including networks, membership of groups and levels of trust and recipro-city'. According to Putnam (1995), social capital ''refers to features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit.'' The definitions covering networks, norms and trust have often been used when analyzing the impact of social capital on economic growth or, more specifically, on innovation (Dakhli and de Clercq, 2004; Fountain, 1998; Knack and Keefer, 1997; Landry et al., 2002).

Social capital may be instrumental and help actors in a social or an economic sense, which is often interwoven with the social and economic hardly detachable from one other (Bjorn, 2015). Trust can be described as confidence in the reliability of others and can be divided into three components (Daskalakis and Kauffeld-Monz, 2007). Social networks, on the other hand, refer to participation in associations and voluntary organizations: professional, religious, cultural, etc. Social networks provide support and communication channels for information exchange through social participation (Franke, 2005; Harper and Kelly, 2003). Networks consist of ties between individuals and through them also between firms. These ties enable, help and speed information exchange (knowledge sharing) and lower the costs of information search, which leads to collective innovation (Kaasa, 2009). It has been said that access to know-how can be gained

with the help of know-who, that is, information about who knows what (Gregersen and Johnson, 2001; Lundvall, 2006). Moreover, by organizing collectively, smallholder farmers may be able to obtain necessary information, reach quality standards, and operate on a large-scale by pooling their financial and labor resources (Markelova *et al.,* 2009). Trust in these farmer groups is frequently argued to be important to knowledge sharing. Many authors believe that when there are trust-relationships, people are more willing to provide useful knowledge.

2.2.2 Access to Microfinance

Microfinance is one means of providing access to the people who may not necessarily access funding from commercial banks. The microfinance engagement in agro-based activities has remained a key area for purposes of increasing accessibility to funds for rural poor (Nuwagaba, 2014). Microfinance includes provision of financial support to acquire assets. Microcredit enables easy to access to credit and has less restrictions in regard to terms and conditions.

In the view of Sagarik (2016) microfinance is supportive to the low-income earners. The microfinance sector contributes close to 45.8% of the rural financing schemes in most developing countries, with agricultural loans dominant. In the study of Ming and others, conducted in North China, a number of factors were detailed account of the relevancy of microfinance to farmers (Ming *et al.,* 2019). In their findings, Ming *et al.,* (2019) found out that financial accessibility as provided through micro credit guarantees social capital as well as results into reduction in production cost, enhance income, guarantee group membership as each is a trustee to the micro loan provided as well as being part of the team, village head loan guarantee, and messenger use were found to increase use of microcredit.

Microfinance precisely involves the provision of basic financial services (such as loans, saving, and insurance) to low-income individuals, for whom it is not possible (or feasible) to use commercial financial services (Sagarik, 2016). MFIs are providing a broad range of credit

products and services to sectors such as agriculture, business, asset financing and housing (AMFIU, 2013). Agricultural microfinance has a significant role in facilitating improvement of agricultural sector. Agricultural microfinance therefore refers to the subset, which provides financing to smallholder farmers involved in small-scale animal husbandry and agricultural production (Sagarik, 2016). Presence of group lending refers to the practice of working with clients in small groups (typically comprised of three to seven neighbors) (Aghion, 2018).

Precisely, the access to micro credit builds confidence in business investment provides room for expansion and innovation. Better access to micro-finance is a tool for better farm management, planning and distribution output. In the International Finance Corporation, IFC, it was also established that in many agro-based economies use of financial services of banks is minimal.

In fact, only 5.9% of wide population of farmers may have a bank account, and their opportunities for getting financial services from commercial banks are small. As a result, their access to agricultural credit and other services is largely inadequate (Saqib, Kuwornu, Ahmad & Panezai, 2018). While this may be the case, there is need to focus on the local Ugandan context. A number of empirical studies have focused on agricultural financing (Sagarik, 2016; Saqib *et al.,* 2018; Ojong & Simba, 2019), but all these have not been keen to focus on microcredit in Uganda. Please refer to EPRC (2019) and Anderson et al (2016) which are specific to Uganda

The attention has to be put on the microcredit within the context of coffee farming in Uganda, to ascertain its relevancy in post-harvest coffee handling activities in Buikwe District.

2.2.3 Quality post-harvest handling

Post- harvest handling is a series of activities that follow direct farm harvests have been made by the farmer. Different countries and farmers apply various approaches towards coffee handling, and include drying, roasting, processing, packing, and storage (Mungai, 2015). These

activities tend to usurp a serial sequence of activities from the garden to the market, and are not only laborious but capital and technological demanding (Hong et al., 2018). Post-harvest activities range from what is done including processing, storage, value-addition, up to marketing and distribution (transportation). Coffee is dominantly an export crop, and from farm to market, it undergoes a series of improvements as part of product handling. Processing involves cleaning, pulping, fermentation, washing, drying and hulling; value-addition involves sorting the quality, grading by size, packaging, roasting, blending, quality assurance and marketing; Storage, before coffee beans are shipped, however, they have to be stored, and to prevent them spoiling or losing quality, a number of precautions have to be taken. These include paying particular attention to Bagging in sacks, humidity, storage facility location, and storage duration.

These studies significantly depict the value of post-handling key for coffee as poorly handled coffee cannot only lose quality but also some coffee beans dry prematurely or lot over time. Post-harvest losses in the food sectors of individual economies are influenced by various key economic, technological and trade-related factors. These include: the stage of economic growth and development of the specific economy; effectiveness of a range of activities (for example; harvesting, packaging, handling, transporting, storing, and marketing) along the supply chain of each specific sector (Gyedu *et al.*, (2014) stresses that this loss is because most farmers do not have access to appropriate production technologies, inadequate availability of food processing technologies and erratic climatic conditions such as heavy rains, droughts and other related factors. Several studies have explored the aspect of post harvesting handing activities in coffee activities. According to Yoshimich (2013), progress in social capital among farmers is vivid at the time of harvesting and marketing as compared to on-farm activities. The study of Yoshimich points out the relevancy of social capital requires a focus on farmers during marketing activities.

As a result of dealing in one line of produce, and at the same fixed market rates, coffee farmers coordinated and sell through groups. Bhandari and Yasunobu (2017) revealed that farmers especially those dealing in perennial crops have to keep the farming activities on going after harvesting. In their study, they reveal that social capital is not it itself an end when it does not reflect on a given activity that binds together different members.

Additionally, Saqib *et al.,* (2018) emphasizes that farming especially subsistence farming is key in supporting on farm and post farming activities. The above studies (Bhandari & Yasunobu, 2017; Saqib *et al.,* (2018)) agree with Hong *et al.,* (2018) that progress in the farming activities remains critical beyond the farm activities. The farmer has to keep and ensure there is quality after harvesting and in stores. While these studies emphasize the aspects of post harvesting activities, their context was outside Uganda. As a result, the detail of post harvesting activities especially in the coffee activities remains fundamental for research in the realm of Ugandan Coffee farmers.

2.3 Social capital and quality post-harvest handling among farmers

It is increasingly recognized that quality post-harvest handling does not happen in isolation. Rather it is "the outcome of collaborative networks where information is exchanged and learning processes happen" (Knickel et al., 2009) (Nurjannah et al., 2019). The role of government bureaucracy and non-governmental organizations is to facilitate the improvement of the quality of farmers' human resources and social capital. Yet, there is little evidence on the relationships between social capital and quality postharvest handling. This is crucial for the development of social networks initiatives that try to foster quality post-harvest handling.

Markelova and Mwangi (2010) noted that the functioning and performance of farmer groups is influenced by the nature of products they deal with, their institutional arrangements and the nature of their external environment which includes associations with other farmer groups, the

state, civil societies and markets. This draws our attention to the role of social capital on the quality of post-harvest practices among farmers. Recent studies show that farmer group linkages with different actors involved in marketing can enhance their skills, facilities, market access and overall

performance (Markelova and Mwangi, 2010; Shiferaw et al., 2009; Pastoret al., 2010). Development and promotion of reliable farmer groups that empower smallholder farmers has been given attention by different actors including governments and their development partners in order to improve rural livelihoods, alleviate poverty, and enhance food security (Abaru et al., 2006; Ampaire et al., 2013).

Conceptualizing social capital is a very difficult task to explain but one of the key areas of social capital is to enhance social ties, social cohesion and role of the social relations that influence the inter-relations with different people.

Monge et al. (2008) also found that household farmers who are embedded in social networks in rural Bolivia are more likely to adopt quality harvest practices brought to them by various development initiatives.

Social capital is the direct and indirect outcomes of coming together, working in teams and in groups to achieve a common objective. The social capital broadly covers the social ties and the bond that emerges as people form a social grouping beyond the family relations. In a study by Inaba (2011), the social trust, norms and beliefs work towards building social network, which help them to work towards one central and common goal. In this context, the role of social capital is pronounced and key in helping individual persons to attain what they could not attain individually but as a group.

Recent work emphasizes interdependence among actors, network effects, joint learning, and social interaction (e.g., Suárez et al., 2021; Bautista, 2018; Snider et al., 2017; Ruben & Heras, 2012). According to this perspective, social capital and quality post-harvest practices are naturally linked. This is consistent with the findings of Elder et al. (2012), who found that farmers in the region practice quality post-harvest handling through social networks as a sense of community through shared work and regular meetings. However, the increased interaction with community members plays a better role in achieving quality harvests than Fair Trade certification.

With increased social groupings and actions, there has been mobility of what used to be urban-based attributes to rural residences, and this change is attained when the traditional reputation of people is tied up in-group dynamics (Coleman, 2015). Social capital as connections that are based on social relationships, networks, and associations that creates shared knowledge, mutual trust, social norms of reciprocity, and unwritten rules (Talavera *et al.*, 2012). In the agricultural setting, farmers who move to find work no longer confine themselves to the original region and can form a new type of social capital that can be conceptualized as "friendship (Talavera *et al.*, 2012).

While social capital has many benefits, the kinship is an important informal institution with stable social (bonding) capital, which plays a unique role (Inaba, 2011). It exists in fixed communities, in clans, and among the farmers. Farm households promote the value of family, live close by, and these typical characteristics still exist, have important roles, and are an important resource for farm households, particularly in rural financial markets where farmers practice group farming. In this context, social capital influences farmers to improve their quality post-harvest handling of their produce. This provides a basis upon which this study will explore

the role of social capital in improving the quality post-harvest handling among farmers drawing from coffee farmers in Buikwe District.

2.4 Access to microfinance and quality post-harvesting among farmers

Microfinance is one of the key ingredients for socio-economic development. Building a robust agricultural economic background is also part of the key components for social fabric and economic transformation (Shaw, 2015). The access to microfinance has been widened in many economics by the wave of the microfinance institution frameworks, and this defines the scope and magnitude within which different categories of people are able to get access to affordable credit.

Credit is a key tool of MFIs that helps people to access resources. Consequently, the link between access to microfinance and post-handling remain paramount and vital for study.

The survey by the International Financial Corporation, IFC (2017), revealed that there are also considerable economic costs related to postharvest food loss resulting from the failure to finance the associated activities. The value of post-harvest activities and value thereof has persistently been lost in Sub-Saharan Africa due to poor post handling. Post-handling constraints arise from financial rigidities that reduce the ability to handle shocks and risks. In a related context, agribusiness centers usually collaborate with microfinance institutions to offer farmers inventory credit or in some instance potentially be supportive to the farmers through providing financing and tailored technical support (World Bank, 2017).

Such studies, including also Hong *et al.*, (2018), all confer to the fact that MFIs provide an avenue for funding. Through MFIs, there is access to funds, by providing the credit for projects addressing the value chain followed by farmers' right at the farm and in the post-farm activities. This gives an assertion that MFIs especially through providing various avenues and

opportunities can finance different activities in the agricultural sector, although the studies do not draw inferences from the Ugandan context and the Coffee production sector.

2.5 The mediation effect of access to microfinance on the relationship between social capital and quality post-harvest handling.

Empirical studies have established that social capital influences post quality harvest handling through access to finance, however the studies are scarce (Cofré-Bravo, Klerkx & Engler, 2019; Agyekumhene et al., 2018). Nahapiet and Ghoshal (2011), agree that multi-dimensional measures of structural and relational framework of social capital, shows how group-based microfinance facilitates the expansion of borrowers' social networks and development of ties which constitute crucial sources for information, financing, business opportunity identification, and advice.

In other words, social capital, which facilitates quality post-harvest among farmers, is highly influenced by the social trust between actors and a degree of certainty regarding beneficial outcomes, which are usually lacking (Agyekumhene et al., 2018). In addition, Ojong and Simba (2019) indicate that through social networks inform of frequent group/center meetings and interactions, influence members to access credit. The primary positive impacts of social capital are the reduction in transaction costs through facilitating collective action (Megyesi *et al*., 2015). A social capital approach suggests that non-economic knowledge emerges from norms, networks and social relationships and that all of these have the potential to become important resources for quality harvest and ventures (Coleman 1988; Nahapiet & Ghoshal 1998). Social networks provide conduits for information exchange and mediate resource exchanges that can affect the success of farming practices. Information benefits can arise in three ways: timing, access and referrals (Burt, 1992). In particular, social networks can facilitate efficient access to financial capital and prove effective in tapping into the professional direction and support

offered by Microfinance firms (Aldrich, 1989). In poor rural areas, participation in credit associations is crucial for accessing loans and enhancing other critical capitals. In situations where access to financial services is non-existent, social networks become important for accessing loans (Benda, 2013).

Anyiro (2016) in the study on influence of social capital on access to micro credit among rural farming households in Abia State, Nigeria, explored and found out that social capital influenced access to micro credit mainly through influencing the membership density, cash and labor contributions of households to associations. More so the same study conceded that owing to the age and composition of households that formed a social group, increased the access to micro credit especially among the rural households.

A related study conducted by Hong *et al.* (2018), also explored the extent social capital influences farm household's borrowing behavior, drawing from China. In their findings, social capital has a positive effect on farm household's ability to get formal loans, provides for a substitution effect on informal borrowing, as well as households' ability to get informal loans.

According to Johnson et al. (2003), agriculture firms can improve their economic performance by investing in the social capital, which can lead to higher firm-level returns than in the human or physical capital. Social capital is a "relationship glue" that effectively supports supply chain partnerships and helps companies enhance their competitive advantage and promote performance Park, et al., 2017; Lin, Chang & Dang, 2015; Carey, Lawson & Krause, 2011) Moreover, the mechanism on how social capital affects the quality performance of agricultural products remains unclear. In Uganda, most farmers access microfinance through group lending (social networks), as well as the special culture characterized by collectivism and relationship networks which prompt farmers to pay extra attention to informal relationships (Finscope,

2018), and this enhances quality post-harvest handling practices such as processing, storage, value addition and transportation, therefore this provides a fertile foundation to study how access to microfinance mediates the relationship between social capital and quality post-harvest handling of coffee farming (Li, Ye & Sheu, 2014).

The studies above confer to the fact that access to microfinance mediates the relationship between social capital and quality post-harvest handling, however the studies are limited. Thus, this study explores how access to microfinance mediates the relationship between social capital and quality Postharvest handling among coffee farmers in Buikwe.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presented the methods and procedures that were employed in carrying out the research. It shows the research design, study population, sample size, measurement of variables, data collection instruments, validity and reliability, data analysis and ethical considerations.

3.1 Research Design

This study used a cross sectional research design. This is because it observes all population or a representative subset at one specific point in time. Besides, it also allows large amount of data to be collected over a short time period. The study used a mixed method approach where both qualitative and quantitative approaches were employed.

The study employed qualitative research which is primarily exploratory research used to gain an in depth understanding of underlying reasons, opinions, and motivations followed by a descriptive approach and mediation analysis to explain the quantitative aspect of the study that involved obtaining information about the situation that existed (Dawson, 2002; Kumar, 2005).

3.2 Research Approach

The study occurred in a natural setting and enabled the researcher to develop a level of detail from high involvement in the actual experiences (Creswell, 2014). The exploratory sequential mixed methods design was characterized by an initial qualitative phase of data collection and analysis, followed by a phase of quantitative data collection and analysis, with a final phase of linking of data from the two separate strands of data. The study was started off with a qualitative approach to explore how social capital and access to microfinance influence farmers' quality post– harvesting handling among coffee farmers in Buikwe. The qualitative approach provides an in-depth understanding of the ways people come to understand, act and manage the quality of

post-harvest situations in a particular coffee farming setting. Then after, our model was tested using the quantitative approach. The quantitative research was followed given its ability to measure data, generalize findings, and make predictions. Quantitative research supports qualitative studies through identifying respondents with the required characteristics attached to actions or behavior (Bryman, 2004). In addition, the study adopted both a descriptive and an inductive paradigm, where the researcher generally explores meanings and insights in a given situation (Strauss & Corbin, 2008; Levitt *et al.*, 2017). The study focused on the Buikwe Riis Coffee Farmers' SACCO Limited, a case exemplifying how social capital and access to microfinance influence quality post-harvest handling of coffee activities.

3.3 Study Population

The study population was drawn from 647 coffee farmers who were in groups and were active members of Buikwe Riis Coffee Farmers' SACCO Limited (BRCFS). Specific, attention was drawn to BRCFS Limited membership since it was the model SACCO in the district. The BRCFS since its inception in 2016 has over 647 coffee farmers who have been active to date. It is licensed with Ministry of Trade, Industry and Cooperatives under the Cooperative Society Act Cap. 112 with its registration Number P.6736/RCS. The demographics of the coffee farmers in this study included, age, farm size, level of education attained, gender, those who are members to the SACCO among others**.** The extent to which coffee farmers have utilized microcredit, basing on their social groups to handle post- harvesting coffee activities was to be explored.

3.4 Sample Size and Sampling Techniques

3.4.1. Qualitative sampling.

Bryman (2011) argued that in inductive research, the sample size was arrived at the point of "theoretical saturation". This is when no new codes or concepts are emerging in data collection and analysis. The study therefore had 7 key informants (KII) who were purposively selected.

These included two (2) BRCFS' leaders, three (3) coffee farmers who were members in Buikwe Riis Coffee Farmers' SACCO Limited (BRCFS) and two (2) participants from the Microfinance Institutions (SACCO, NGOs, Village Savings and Loans Associations (VSLAs). When selecting the coffee farmers, the study utilized purposive sampling technique to select respondents who were knowledgeable about the subject matter. The unit of analysis was a coffee farmer as well as the unit of inquiry. The key informants including the leaders, coffee farmers and staff from the Microfinance Institutions were selected given the knowledge and understanding of the subject matter and to obtain valuable information.

During data collection, (Siggelkow, 2007) argued that while single-case studies could richly describe the existence of a phenomenon, multiple-case studies typically provided a stronger base for theory building (Yin, 2009). Multiple cases enabled comparisons that clarified whether emergent finding was simply idiosyncratic to a single case or consistently replicated by several cases (Eisenhardt, 1986). The researcher therefore treated coffee farmers as single cases at first during data collection and analyzed the findings as multiple cases for purposes of comparison.

3.4.2. Quantitative sample size

Simple random sampling was used to select 242 farmers from the population of 647 (Krejcie & Morgan, 1970). Simple random sampling technique was applied to select the sample from the population. The selected farmers were assigned unique numbers for the purpose of proper identification. However, from the targeted 242 respondents, data were collected from 200 usable questionnaires, thus giving a response rate of 83%.

3.5 Operationalization and measurement of research variables

Operationalization and measurements of variables under study are vital for any research (Singleton Straits, 2010). Quality Post-harvest handling was measured by processing, storage, value addition and transportation (Hong *et al.,* 2018; Gyedu *et al.,* 2014). Access to

microfinance was measured in terms of loan size, interest rates, lending terms and conditions (Sagarik, 2016; Aghion, 2018). Social capital was measured by social networks, knowledge sharing, and trust (Agahi & Karam, 2012; World Value Survey, 1998); Munene, Schwartz & Kibanja, 2005); Heikkilä et al., 2009); Grootaert, 2001).

3.6 Data Collection Instruments

Primary data were collected from the leaders, staff from microfinance firms and coffee farmers using both questionnaire and interview guides.

3.6.1 Qualitative data

In the study, data were collected using a semi-structured interview guide to get the perceptions of the farmers' views in order to assess the clarity of the constructs under study. Face to face interviews were conducted with the leaders, staff from micro finance firms and coffee farmers of Buikwe Riis Coffee Farmers' SACCO Limited. Semi-structured Interview guides were used to gather information from key informants who had personal experiences, attitudes, perceptions and beliefs related to topic of interest (DeJonckheere & Vaughn, 2019). Interviews were good for giving a detailed elaborate opinion and hence widely used in qualitative studies (Creswell, 2014). In addition, a Focus Group Discussion (FGD) was undertaken with members to BRCFS. These were selected on the basis that the person had a membership card and had been a member of the SACCO for the last three months. Focus Group Discussion facilitate the respondents to give their opinions in a free interaction (Namely *et al.*, 2005). One (1) FGDs was held consisting of six (6) members who were brought together under the moderation of the researcher to deliberate a given phenomenon (Namely et al., 2005). An FGD checklist was useful in obtaining detailed opinions from the various participants of the same characteristics, saved time, and conducive for qualitative data approach. The Focus group discussion was used to compliment the opinions expressed by leaders. Using these methods, the researcher obtained a detailed

perspective from the primary sources regarding social capital, access to microfinance and quality post-harvest handling in coffee growing in Buikwe District.

3.6.2 Quantitative data

In addition, semi-structured questionnaires were developed to obtain responses from the selected respondents based on the variables and other aspects under study. Self-administered questionnaire was enrolled on only the coffee farmers from Buikwe Riis Coffee Farmers' SACCO Limited. The self-administered questionnaire was anchored on a five likert scale based on 1-strongly disagree; 2-Disagree; 3-Uncertain; 4-Agree; 5-Strongly agree.

3.7 Reliability and validity of research instrument

3.7.1 Reliability

The data collection instruments were tested for reliability to check the internal consistency of the items in the questionnaire. Data were pretested from ten (10) respondents and then SPSS version

20 was used to check for the reliability of the data collection instrument. The Internal consistency of the instruments was measured using Cronbach's alpha coefficient to measure the degree to which inter-item reliability and consistency between the levels at which different items measuring the same variable attain consistent outcome or results (Cronbach, 1951). The objective was to ensure that if another investigator later followed the same procedures, he would arrive at the same findings and conclusions (Yin, 2003). Thus, reliability was assessed to determine repeatability and internal consistency (Zikmud, 2003) of each factor using Cronbach's alpha. The reliability results from the pretest are presented in table 1 below:

Table 1: Reliability results

Variable	Cronbach alpha	Number of items
Post-harvest handling	.855	29
Access to finance	.820	21
Social capital	.876	15

Source: Primary data

Based on Nunnally & Bernstein (1994), they recommend that instruments used for social science research should have reliability of about 0.70 or above. Therefore, for the purpose of this study, alpha coefficient above 0.70 was considered as appropriate to test reliability of the study instrument.

Furthermore, in order to ensure reliability in qualitative research, examination of trustworthiness was determined. This study used different observers to check interpretations and observations, with a goal of achieving a higher continuity and dependability of observations across different settings.

3.7.2 Validity

Validity was concerned with the instrument giving actual results of what it designed to measure (Babbie & Monton, 2002). Indeed, validity is the extent the results from the study correspond with reality (Sekaran, 2000; Merriam, 1998). Content validity was determined by giving the instruments to 10 respondents who were experts (academia & professionals) in the field of quality post-harvest handling, and responses were rated based on scales anchored on 1 representing relevancy, and 2 representing irrelevancy of the items used in measuring the constructs. Content validity index was obtained by dividing the proportion of items declared as valid by the total numbers of items as recommended by Amin (2005).

Variable	Content validity (CVI) Index	Number of items
Quality post-harvest handling	.92	29
Access to microfinance	.87	21
Social capital	.89	15

.80 is acceptable if other indicators in a model's construct validity are good.

Validity in qualitative research ensures credibility, which involves the "truthfulness" of study findings, and it is the researchers' responsibility to provide chains of evidence and sets of narrative

accounts that are plausible and credible (Golafshani, 2003; Hammersly, 1992). Analysis of responses to the pre-test helped to identify potentially problematic questions and this allowed the researcher to modify lengthy, emotionally loaded, confusing and suggestive wordings in the interview guide.

3.8 Data Processing, Analysis and Presentation

3.8.1 Qualitative data analysis

The data collected from the qualitative approach using the interview guide and focus group discussion was later entered into Nvivo version 10 software. Data management and editing processes were carried out for screening purposes.

Descriptive and explanatory techniques for qualitative data were used. All interviews were recorded and transcribed. The basic step that was followed for the analysis of qualitative data consisted of coding the data, combining the codes into broader categories and themes, and interpreting the results (Creswell et al., 2007; Sinkovics et al., 2005). The analysis developed gradually during the data collection process; early analysis of the first transcript enabled the discussion guidelines to be refined for subsequent interviews (Corbin & Strauss, 2008). As recommended by Corbin and Strauss (2008), the data analysis was an iterative process of reading, coding, discussing the coding, and starting again with the reading. Relevant sections of

the transcripts were carefully reread and analyzed in the search for patterns and thematic content analysis coding for evidence of constructs (Sony & Mekoth, 2015).

Thematic analysis was used to expound on narrations of the opinions of the respondents (Bryman, 2016). The words, phrases and texts that re-occurred were considered as sub-themes for each objective. These helped to provide verbatim information from the respondents that were relevant in answering the study objectives.

3.8.2 Quantitative data analysis

Data collected from the respondents using semi-structured questionnaires were entered, coded, edited and analyzed using statistical program for social science (SPSS/20). Descriptive approach and the mediation analysis were performed according to the study objectives. Descriptive statistics were generated to determine the sample characteristics of the respondents who participated in this study. Data analysis involved organization and interpretation of the data generated in respect of each objective in the study. Correlation analysis was used to determine the relationships among the study variables and the hypotheses were then tested using multiple linear regression analysis. The mediation tests were also performed using Med Graph program by Jose (2008) to establish whether there is a mediation effect of access to microfinance on the relationship between social capital and quality postharvest handling.

3.9 Ethical Considerations

The researcher attained informed consent and ensured high level of confidentiality about the data provided during the study. The research was steered by the principles guiding ethical concerns in research (Mutasa, 2010). In this way, the researcher followed the principles of protecting respondents from harm and guaranteed them privacy, confidentiality, anonymity and safety.

To do this the researcher obtained an introductory letter from Makerere University Business School (MUBS). The letter was presented to the selected respondents. Following the principle of informed consent, the researcher explained to the participants the purpose of the study, procedures to be used, and the ways in which they participated in the study. Privacy, confidentiality and anonymity was assured to the participants and the research was purely academic.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0 Introduction

The overall objective was to establish how social capital, access to microfinance relate to post-harvest handling of coffee among farmers in Buikwe District. To accomplish the objective, an exploratory sequential mixed method (sequential triangulation) design was characterized by an initial qualitative phase of data collection and analysis, followed by a phase of quantitative data collection and analysis, with a final phase of linking of data from the two separate strands of data. The quantitative data were analyzed using SPSS version 20 with the focus of establishing the relationship among the variables under study using correlation and regression analysis. The first section presents the qualitative results, which were collected using the semi-structured interview guides, and focus group discussion, the second section presents the descriptive summary statistics, background information characterized by farmers' characteristics, correlation and regression results of the study.

4.1 Qualitative Results

The qualitative approach was carried out in order to explore how social capital among coffee farmers facilitates their access to microfinance. Secondly, it explored how social capital among coffee farmers reflect on their post-harvest handling behavior, and thirdly, it established how social capital, access to microfinance related to post-harvest handling of coffee among farmers in Buikwe District. The study adopted a qualitative approach. The data was analyzed using thematic analysis based on codes deducted from opinions of respondents' interviews and the FDG. Below are the findings.

4.1.2 How social capital among coffee farmers reflect on their post-harvest handling behavior

Farmers in the area where the study was conducted produced coffee on a small scale. Many of them therefore produced coffee on a rather small scale, which they sold to different agents including middlemen and the BRCFS. The respondents revealed that before they joined the social groups in their villages, they were not practicing proper coffee after harvest farming practices and therefore produced poor quality coffee. However, with the farmer groups in place, most of them have been able to use the networks within to share knowledge and ideas, which they have used to improve on their coffee produce. They revealed that the leadership in the social groups has been a strong force in helping the farmers improves on their coffee farming practices.

Facilitating postharvest handling through networks by coffee farmers

The post-harvest processes included; harvesting, handling, drying, processing, storage, hulling and sorting among others. In order to be able to improve on these processes, it was discovered that the respondents in this area have organized themselves in farmer groups where majority are involved in the same agricultural production in order to help and support each other produce quality output.

With such organization, the farmers in this village ended up being in networks brought about by trust, bonds and norms of reciprocity.

Facilitating postharvest handling through knowledge sharing and trust by coffee farmers

It was also through these networks that the farmers accessed and shared their coffee postharvest knowledge and practices with each other. The Respondents that participated in the study revealed that whereas they individually had coffee farms, they were not producing quality coffee and were therefore not earning much from their produce. When they joined the farmer groups

through references from their friends or family members, they noticed the difference in especially the quality of the coffee they produced, the quantity they harvested in each season and also the prices the coffee fetched for them. For example, Respondent 6 revealed that;

> *"I was referred to the social group in my village by my friend who belongs to the same group. The majority of the members in my social group grow coffee. Before I was able to join them, I would harvest only around 500Kgs of coffee and I would harvest everything on a branch in one go".*

He further added that;

> "*I would sell my coffee beans immediately after drying them and was comfortable selling it at the price given to me by the middlemen.* "*However, when I got the opportunity of joining my friends in this farmer groups, there has been a drastic change in the way I handle my coffee starting from the harvesting point for example, I only pick the ripe red cherries with hands, and I process my beans at my small mill. I am able to sell at UGX 4,800 each processed kilogram of coffee".*

Farmers explained that they were forced to sell at different levels because of difficulties they faced in their households especially payment of school fees for their children and payment of medical bills when one of the household members fell sick. Respondent 2 revealed that;

> *"Each of us would have wanted to sell our coffee when it fetches the highest price but we have so many household challenges that force us to sell earlier. Our biggest challenges are school fees payment and medical bills".*

Respondent 3 added that they also have a challenge of middlemen that often offer a lower price for the beans;

"Middlemen are a challenge to us because they have ready money and they usually take advantage of the farmers. They are willing to release money even before the harvest season. And because many of us have financial challenges we end up selling our coffee at very low prices".

Apart from the networks assisting farmers to practice better postharvest management processes, it was discovered that their fellow farmers and the BRCFS trained the farmers. Because of this training, majority of the farmers had improved on how they picked, dried and stored their coffee. Respondent 5 from the FDG explained when and how coffee was picked;

"We have been trained and advised to avoid picking green coffee beans. We were told that these greens do not fetch good weight and do not have the aroma that red coffee beans have at the time of the consumption of coffee. We also lay down pieces of clothes during the process of picking coffee beans. This is intended to ensure that the harvests are free of objects like stones, grass and sticks".

In regards to storage facilities before farmers sell their coffee it was established that the majority of the farmers did not have dedicated stores in their homes. Either they had a room allocated to storage of coffee or they stored all farm produce in the same room. Some of the respondents indicated that they had to rent some storage facilities for their coffee from other farmers. Respondent 1 explained regarding storage of coffee;

"The BRCFS has trained us on how to store coffee so that it remains of good quality. We usually store our coffee in sacks and these sacks are placed on raised platforms to avoid moisture. For instance, I place my coffee sacks on timber logs and I make sure the area is just cool enough for my coffee and not too cold or too hot either".

Farmers were of the view that the BRCFS should come to their rescue by setting up a central store or silos for all member farmers to store their coffee. The farmers were of the view that such a facility would help in a number of ways including; group marketing and selling that would probably lead to better prices, improved security of the farm products, improved quality of coffee, among others.

Findings revealed that the major means of transportation from the farms to farmers' homes was by head and bicycles. However, the major means of transportation from the farmers' homes to sales points was by motorcycles and bicycles.

Further findings established that farmers sell their coffee to middlemen and also the BRCFS buys the coffee from the farmers and offer them better prices although this heavily depended on the quality of the coffee that they are produced.

4.1.3 How access to microfinance facilitates quality postharvest handling by coffee farmers

The study was carried out in the village where many farmers could hardly access banking services because there were no financial institutions making it hard for these farmers to access such services. The BRCFS was therefore formed for the purpose of availing banking-like services to these farmers such as, loans, financial education, access terms and conditions among others.

Through such services like loans, coffee farmers were able to use these funds to improve on their coffee postharvest farming practices, through buying more inputs such as pesticides, tarpaulins, rent stores, sieves for their after produce among others and thus improve on the quality of the coffee they produce. This group therefore made it easy for these farmers to save and access the loans with little or no collateral assets.

The type of the loans given in this particular SACCOs depended on a few things including, the amount of savings one had with the group. Members in the SACCOs started saving from as low as UGX 10,000 onwards depending on one's capability.

This money was usually collected at the weekly meetings they held. It was upon one's savings in the SACCOs that they based on to calculate how much each farmer could take out as loan at a given moment. One could only be given a loan that is three times their savings in the group. For example, in case one had UGX 200,000 as their savings, they could get up to UGX 600,000 and an interest would be charged accordingly. This was done to ensure that the farmers took out loans, which they would be able to pay back in the given period.

With the access of such additional funds, it was discovered that most of the farmers were able to improve on the quality of their coffee post-harvest handling practices, as they were able to buy materials such as tarpaulins, sacks, timber logs and bricks on which they place the coffee for storage. As Respondent 2 noted that;

> "*When I joined the farmer groups, I was able to get a loan from the SACCOs and with it I managed to buy tarpaulins for drying my coffee which I would previously just lay on the ground. With the additional funds too, I was able to buy sacks and rent a sizable store in which I can safely store my coffee and not be worried about it deteriorating or rotting*".

Aside from using the additional funds to buy farm inputs, the respondents indicated that they were able to use these funds to add value to their coffee through processing it. For example, Respondent 5 in the FDG indicated that;

"*We usually have no money left after planting and weeding our coffee farms so it is highly likely for most of us to apply for additional funds after harvesting the coffee. I was able to get a loan from BRCFS and process my coffee since I do not have the machine myself. I used to sell my coffee immediately after drying it and it would not fetch me as much as I get now that I can process it*".

4.1.4 How access to microfinance mediates social capital and quality post-harvest handling among coffee farmers.

The farmers were organized in small social groups known as Village Level Savings Associations (VLSAs); they were recruited to join these social groups by either their friends or family members.

Using networks to facilitate farmers' access to microfinance

In the VLSAs, farmers depended and leaned on each other for daily living, thereby forming strong networks. With such networks, farmers were able to get financial training, started saving with the farmer groups, marketed their coffee and improved their overall agricultural practices to enhance income.

Using trust to facilitate access to microfinance among coffee farmers

The networks that they belong to are based on high levels of trust and strong bonds. The respondents leaned on this trust to be able to recommend members to join the social groups and also be able to act as guarantors to one another in order to access the additional funds as microfinance.

4.2 Quantitative Results

4.2.1 Respondents' Background information

In this study a set of personal characteristics namely, age, gender, position, Education, years of operation and number of employees of 200 respondents have been examined and presented in this chapter.

4.2.1 Respondents characteristics 1

Variable	Category	Percent
Gender	Male	58.0
	Female	42.0
Total		**100.0**
Education	No formal education	2.0
	Primary	19.0
	Secondary	37.0
	Technical	42.0
Total		**100.0**
Age	18-30 years	4.0
	31-40 years	23.0
	41-50 years	39.5
	above 50 years	33.5
Total		**100.0**
Membership	Leader	10.5
	Secretary	15.0
	Member	74.5
Total		**100.0**
Services from the Association	Farming advice	72.0
	Access to markets	5.5
	Access to inputs	2.0
	Storage facilities	7.5
	Access to finance	13.0
Total		**100.0**
Savings	Group saving	46.0
	SACCO	54.0
Total		**100.0**
Alternative income	Fulltime employment outside the farm	1.5
	Part-time employment outside the farm	21.0
	Retirement income	5.5
	Income from personal investments	70.0
	Income from a family trust	2.0
Total		**100.0**

Source: *Primary data*

Table 4.4.1 shows the respondents characteristics,

Table 4.4.1 shows that majority of the respondents were male with a 58% representation, this implies that coffee growing in Buikwe district is majorly dominated by the males**.** Majority of the coffee farmers indicated to have completed technical training as their highest level of education, followed by those who had completed secondary, this shows that majority of them were literate, and could therefore comprehend the questions asked. The data also showed that most of the respondents had a membership to the coffee cooperative.

Regarding age analysis, most of the farmers that participated in the study were between 41-50 years of age (39.5%) with the lowest being between 18-30 years of age. This shows that the youth are not actively engaged in coffee growing. Majority of the respondents indicated that they receive other services such as faming advice from the coffee cooperative and most of them save their money in this SACCOs. Most of the respondents noted that they have other sources of income from other personal investments other coffee farming.

4.4.2 Farm characteristics 1

Variables	**Items**	**Percentage**
Farm size (Ha)	less than 1 hectare	4.0
	1-2 hectare	6.0
	2-3 hectares	33.0
	above 3 hectares	57.0
Number of years	less than 4 years	6.0
	4-8 years	21.5
	8-12 years	28.0
	above 12 years	44.5
Total		**100.0**

Source: *Primary data*

Table 4.4.2 shows background information regarding the farm characteristics.

The data collected shows that majority of the respondents have above 3 hectares on which they grow their coffee. This indicates that most of them cultivate coffee on a small scale.

Most of the respondents that participated in the study indicated that they have been involved in coffee growing for more than 12 years. This implies that majority of them have grown coffee for a considerable time and that it was part of their livelihood.

4.3 Correlation Results

The Pearson's correlation analysis was performed to determine the level of association between the study variables. The analysis was done to establish the relationship between social capital, access to microfinance and quality post-harvest handling.

Table 4.3: Correlation Results

Correlations	1	2	3	4	5	6	7	8	9	10	11	12	13
Social capital (1)	1												
Networks (2)	.879**	1											
Knowledge sharing (3)	.843**	.595**	1										
Trust (4)	.892**	.760**	.570**	1									
Access to microfinance (5)	**.673****	.626**	.610**	.531**	1								
Loan size (6)	.335**	.359**	.305**	.227**	.780**	1							
Interest rates (7)	.694**	.661**	.594**	.572**	.830**	.442**	1						
Lending terms (8)	.636**	.526**	.608**	.521**	.826**	.409**	.618**	1					
Quality post-harvest handling (9)	**.863****	.770**	.608**	.882**	**.546****	.156*	.638**	.573**	1				
Processing (10)	.693**	.681**	.377**	.773**	.447**	.165*	.512**	.436**	.847**	1			
Storage (11)	.801**	.729**	.562**	.812**	.466**	.133	.558**	.476**	.886**	.768**	1		
value addition (12)	.800**	.669**	.608**	.807**	.437**	.129	.480**	.481**	.896**	.815**	.717**	1	
Transportation (13)	.674**	.575**	.525**	.658**	.500**	.114	.598**	.543**	.806**	.439**	.572**	.623**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Source: *primary data*

4.3.1 Social capital among coffee farmers and quality post-harvest handling.

The correlation results revealed a positive and strong relationship between social capital among coffee farmers and quality post-harvest handling (r=.863**), implying that, social networking, knowledge sharing and trust are positively related to quality post-harvest handling.

4.3.2 Access to microfinance and quality post-harvest handling.

There was a positive and strong association between access to micro finance and quality post-harvest handling (r=.546**), this implies that loan size, interest rates and lending terms are

related to quality post-harvest handling in terms of processing, storage, value addition and transportation of coffee.

4.3.3 Social capital among coffee farmers and access to micro finance.

The study also found a positive and strong relationship between social capital and access to microfinance (r=.673**), this is an indication that having access to micro finance by coffee farmers is correlated to social capital attributes (social networking, knowledge sharing and trust).

4.4 Regression

The study also examined the extent to which the variance in quality post-harvest handling among coffee farmers is explained by access to microfinance and social capital among coffee farmers. Regression analysis also helped to establish the significance of each of the independent variables (access to microfinance and social capital) on the variance in the quality post-harvest handling. The results that were obtained are presented in table 4.4.1.

4.4.1 Regression Results 1

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
1 (Constant)	-.331	.206		-.608	.109
Social capital	0.966	.063	.811	15.364	.000
Access to microfinance	0.099	.073	.071	1.345	.180

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-statistics
1	.734[a]	.539	.536	.33082	231.184

a. Predictors: (Constant), social capital, Access to finance

b. Dependent Variable: Quality post-harvest handling

Source: *Primary data*

The multiple linear regressions were performed to test for the significance effect caused by the independent variables on the dependent variables. The results found that social capital has a positive and significant effect on quality post-harvest handling (b=.811), while, the effect of access to microfinance on quality post-harvest was positive and non-significant (b=.071). This implies that social capital among coffee farmers through social networking, information sharing and trust positively and significantly influences quality post-harvest handling in terms of processing, storage, value addition and transportation. Furthermore, the results indicated that access to microfinance among farmers positively influences quality post-harvest handling, however, it is statistically insignificant at .180 (p-value >00). The overall regression model found an explanatory power of 53.6% (adjusted R square=.536) influence of social capital and access to microfinance on quality post-harvest handling.

4.5 The mediation effect of access to microfinance on the relationship between social capital and quality post-harvest handling of coffee among farmers.

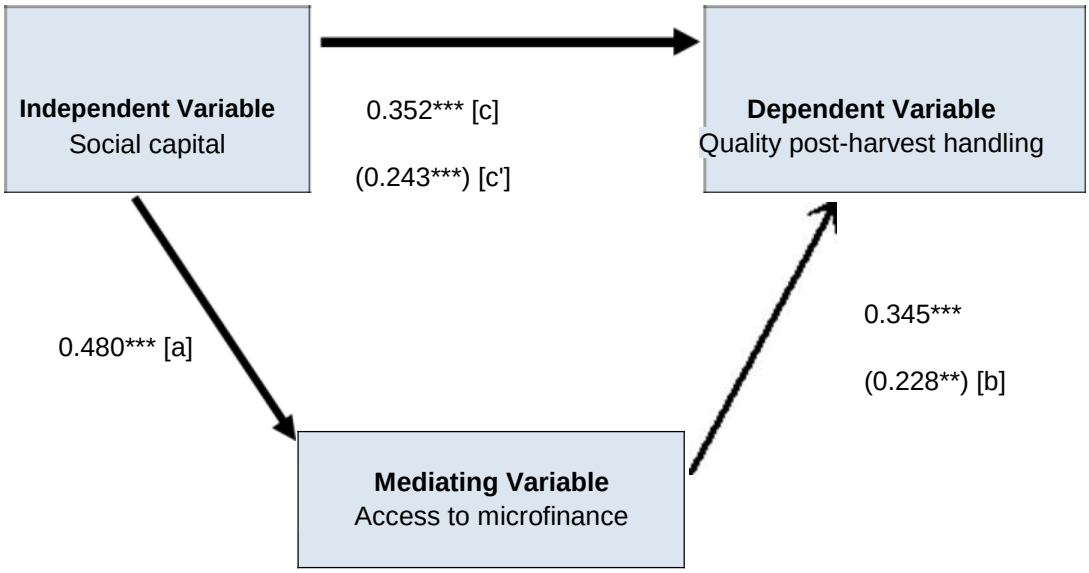
The mediation test for the mediation effect of access to microfinance on the relationship between social capital and quality post-harvest handling using statistical conditions for testing the mediation effect recommended by Baron and Kenny (1986). Baron and Kenny (1986) proposed four conditions in which several regression analyses are conducted and significance of the coefficients is examined at each step. The mediation test requires two paths to the dependent variable. The independent variable being social capital must predict the dependent variable (quality post-harvest handling), and the independent variable must predict the mediator (access to microfinance). Mediation was therefore tested through three regressions: (1) Independent variable predicting the dependent variable (2) Independent variable predicting the mediator and the independent variable and mediator predicting the dependent variable. The following conditions must be met in the results to support mediation:

i. The independent variable (social capital) is shown to significantly influence the dependent variable (quality post-harvest handling) in the first regression equation.

ii. Social capital was also shown to significantly influence the mediator (access to microfinance) in the second regression equation.

iii. Mediator (access to microfinance) however positively influenced quality post-harvest but was statistically insignificant with quality post-harvest handling in third equation.

Table 2: Medigraph PC: **A programme to graphically depict mediation among three variables**



The mediation effect results are presented in the medigraph, from the results, the study found significant relationships between social capital and quality post-harvest handling. In Step 2 model, in this regard, social capital showed to significantly influence the mediator (access to microfinance) in the second regression. The Mediator (access to microfinance) also significantly influenced quality post-harvest handling in third equation, the above finding supports partial mediation. This finding implies that the association of social capital among farmers for their quality post-harvest handling is partially dependent on the access to microfinance. Table 4.4: Medigraph: the partial mediation effect of access to microfinance in the relationship between social capital and quality post-harvest handling among farmers Coffee in Buikwe.

Table 3: Med Graph - PC: A program to graphically depict mediation among three variables

Type of mediation		**Significant**
Sobel z-value		2.747539 p =0.006004
95% Symmetrical Confidence interval		
	Lower	**0.03156**
	Higher	**0.18865**
Unstandardized indirect effect		
	a*b	**0.1101**
	Se	**0.04007**
Effective Size measures		
Standardized Coefficients		
Total:		**0.352**
Direct:		**0.243**
Indirect:		**0.109**
Indirect to Total ratio		**0.31**

Source: *Primary data*

Sobel's test was further performed to determine if the relationship between the independent variable (social capital) and dependent variable (quality post-harvest handling) has been significantly affected after inclusion of the mediator variable (access to microfinance). Sobel test was used to assess whether a mediation effect is significant. The regression coefficient for the indirect effect was significant at 0.109. MacKinnon et al, (2002) recommends that P and z', appear to have the highest power. This tests also confirmed a significance association which was confirmed by the Sobel test ($Z = 2.747539$, $p=0.006004$; $p<.05$). The study confirmed a partial mediation, since the independent variable (social capital) has an indirect effect on a dependent variable (quality post-harvest handling).

CHAPTER FIVE

SUMMARY, CONCLUSIONS ANDRECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions and recommendations of the study. The summary of the findings is discussed in alignment with the literature reviewed, the conclusions are drawn from the summary and the recommendations are drawn basing on the conclusion that the researcher came up with.

5.2 Discussion of the findings

This chapter presents the discussions of the findings and results. The main objective of the study was to explore how social capital and access to microfinance influence quality post-harvest handling among coffee farmers in Buikwe District. Specific objectives were to examine how social capital among coffee farmers improves quality post-harvest handling; to explore how access to microfinance among coffee farmers' influences quality post-harvest handling and to establish how access to microfinance mediates the relationship between social capital and quality post-harvest handling of coffee among farmer, which now form the basis of the discussions in this chapter.

5.2.1 How social capital among coffee farmers reflect on their quality post-harvest handling.

Findings from the qualitative approach established that social capital influences quality post-harvest handling among coffee farmers through trust, knowledge sharing and through social networks in form of groups. Most of the farmers indicated that having social capital improved on their overall post-harvest management practices and better quality coffee.

In addition, most of the farmers have been able to use the networks within to share knowledge and ideas, which they have used to improve on their coffee, produce. They revealed that the

leadership in the social groups has been a strong force in helping the farmers improve on their coffee farming practices. This finding is in agreement with Ready (2018) who found that sharing based social capital improves quality farming among harvesters. This study finding has implications for the development of social relationships that are promoted in a sustainable manner and reinforced in a conscious relationship among people, their communities and the environment they live in. Respondents further noted that, they organized themselves in farmer groups where majority are involved in the same agricultural production in order to help and support each other produce quality output. Respondents also indicated that through these networks, the farmers accessed and shared their coffee postharvest knowledge and practices with each other.

Further findings revealed that farmers were of the view that BRCFS should come to their rescue by setting up a central store for all member farmers to store their coffee. This they thought would help them to have group marketing and selling that would lead to better prices, improved security of the farm products, improved quality of coffee, among others.

Apart from the networks assisting farmers to practice better postharvest management processes, further findings also established that farmers in these networks received training from fellow farmers who had more knowledge about postharvest management practices and from BRCFS. Furthermore, the results from the quantitative study revealed that social capital has a positive and significant effect on quality post-harvest handling among coffee farmers. The results indicated that social networks, knowledge sharing and trust have a positive and significant effect on processing, storage, value addition and transportation practices among coffee farmers.

This finding is in agreement with several studies that have explored how social capital influences quality post-harvest handling. See Poli and Gil (2015) confirmed that trust facilitates cooperation between individuals and encourages joint efforts while information sharing through farmers' networks and their collective action acts as a conduit for information about new technologies facilitating learning diffusion both from external sources as well as from other farmers. Yoshimich (2013) also found that progress in social capital among farmers is vivid at the time of harvesting and marketing as compared to on-farm activities.

This study finding also agrees well with Bhandari and Yasunobu (2017) who found that farmers especially those dealing in perennial crops have to keep the farming activities on-going after harvesting. In their study, they revealed that social capital is not it itself an end when it does not reflect on a given activity that binds together different members.

These results are also compatible with the argument that coffee farmers use social capital as a means to improve quality post-harvest handling through information sharing, formation of group networks and building social trust among the members, therefore, the Potential gains of group farming for quality post-harvest practices is proved in many empirical studies, showing how social capital influences quality harvest of coffee.

5.2.2 How access to microfinance among coffee farmers' influences quality post-harvest handling.

The study findings from the qualitative results indicated that access to microfinance influences quality post-harvest handling.

Respondents indicated that access to microfinance through access to loans at low interest rates with favorable lending terms and conditions enable farmers to improve on their coffee postharvest farming practices, through buying more inputs such as pesticides, tarpaulins, rent

stores, sieves for their after produce among others and thus improve on the quality of the coffee they produce and get better prices for their produce.

With the access to microfinance, it was discovered that most of the farmers were able to improve on the quality of their coffee post-harvest handling practices as they were able to invest in simple and modern hulling machines for coffee processing on which they place the coffee for storage, and use of large sieves that are used in winnowing the coffee to try and sort the coffee beans. Most farmers also indicated the improved ability to invest in the farm inputs proved vital in improving their coffee post-harvest management activities. This study finding collaborates well with empirical studies that found that access to microfinance influences quality post-harvest handling. This finding is in line with Nuwagaba (2014) who contends that the microfinance engagement in agro-based activities has remained a key area for purposes of increasing accessibility to funds for rural poor. This is in agreement with the findings that established that most of the farmers have accessed funds from the BRCFS with little to no collateral to buy farm inputs like canvases, sieves, tarpaulins and also to rent stores, process their coffee among others. These in turn have helped the farmers improve on their post-harvest handling practices like better harvesting, better coffee handling, proper drying, proper storage, and proper transportation among others.

Likewise, this finding is in agreement with further studies of Sagarik (2016) who indicates that microfinance precisely involves the provision of basic financial services (such as loans, saving, and insurance) to low-income individuals, for whom it is not possible (or feasible) to use commercial financial services. The Association of Micro Finance Institutions in Uganda AMFIU (2013) also noted that MFIs provide a broad range of credit products and services to

sectors such as agriculture, business, asset financing and housing that facilitate improvements in quality post-harvest practices such as value addition and processing of coffee products.

Findings further established that the loan terms and conditions were generally good and encouraged farmers to access credit with the microfinance organization in the area. This was in agreement with Nuwagaba, (2014) that contends that microcredit is key when affordable, easy to access and has less restrictions in regard to terms and conditions. Findings revealed that coffee farmers acquire loans from the BRCFS at very low interest rates that ranged between 3%-5% per annum for agricultural and business respectively for a period of 12 months. The availability of the personnel at BRCFS to issue out these loans also made it easier for the coffee farmers to acquire the additional funds whenever they needed it. Fellow farmers guarantee each other in order for them to access credit from BRCFS.

On the other hand, the quantitative results indicated a positive and non-significant effect of access to microfinance and quality post-harvest handling. The results from the multi-linear regression revealed that access to finance has no significant effect on quality post-harvest handling among coffee farmers. Sekyi, Abu & Nkegbe (2017) found that access to credit constrains the quality of post-harvest. This finding is also supported by World Bank (2014) finding that most rural farmers that lost access to agricultural finance with the collapse of crop marketing boards have not been favored by micro-finance institutions. The African Development Bank Group, ADB (2017), also found that micro-finance programs have relied on tools such as joint liability, rigid repayment schedules and short-term structures that are inconsistent with many agricultural activities.

5.2.3 How access to microfinance mediates the relationship between social capital among coffee farmers and quality post-harvest handling.

The qualitative findings established that being in a social group enhances access to microfinance, which improves quality post-harvest handling. Respondents indicated that being a member in a group influences the ability to access microfinance loans through collateral and these influence improved postharvest practices. Farmers they were part of networks in the social groups referred by either a friend or family. These networks acted as social capital to the coffee farmers due to norms of trust and reciprocity.

This is in agreement with Agahi and Karam (2012) who conferred that social capital through connections among individual's social networks and the norms of reciprocity and trustworthiness influences access to microfinance, which leads to improved farming practices. This is also in agreement with the findings that established that farmers used these social networks and trust to reach out and recruit new members into the farmer groups and also the entire BRCFS membership is made of all farmers from these different groups. A farmer also only required a recommendation letter from the village.

Local Councils (LCs) to join and access microfinance in all the farmer groups in the area and their decision is based on the member's credibility and trustworthiness in the community. Other findings also indicated that coffee farmers base on trust to stand as surety or guarantee each other in case of need when accessing microfinance.

According to Susano (2013), Leaders in such cooperatives manage and influence a vital part of organizational resources through social capital. This is in agreement with findings that established that leaders in these farmer groups collect the members' savings on their behalf and

also forward the same to the BRCFS on behalf of the members. The leaders are also responsible for keeping records and details of all members and the amount saved at each meeting held. Finding established that almost all the coffee farmers have ever used microfinance in funding their agriculture enterprises. Additionally, Nuwagaba (2014) contends that the microfinance engagement in agro-based activities has remained a key area for purposes of increasing accessibility to funds for rural poor. This is in agreement with the findings that established that most of the farmers have accessed funds from the BRCFS with little to no collateral to buy farm inputs like canvases, sieves, tarpaulins and also to rent stores, process their coffee among others. These in turn have helped the farmers improve on their post-harvest handling practices like better harvesting, better coffee handling, proper drying, proper storage, and proper transportation among others. These findings are in agreement with further studies of Sagarik, (2016) who indicates that microfinance precisely involves the provision of basic financial services (such as loans, saving, and insurance) to low-income individuals, for whom it is not possible (or feasible) to use commercial financial services. MFIs are providing a broad range of credit products and services to sectors such as agriculture, business, asset financing and housing (AMFIU, 2013).

Findings further established that the loan terms and conditions were generally good and encouraged farmers to access credit with the microfinances organization in the area. This was in agreement with Nuwagaba, (2014) that contends that microcredit is key when affordable, easy to access and has less restrictions in regard to terms and conditions. Findings revealed that these coffee farmers acquire these loans from the BRCFS at very low interest rates that ranged between 3%-5% per annum for agricultural and business respectively for a period of 12 months. The availability of the personnel at BRCFS to issue out these loans also made it easier for the

coffee farmers to acquire the additional funds whenever they needed it. Fellow farmers guarantee each other in order for them to access credit from BRCFS. These findings are also in line with the view of Sagarik (2016) that showed that microfinance is supportive to the low-income earners.

Furthermore, the results confirmed a partial mediation effect on access microfinance on the relationship between social capital and quality post-harvest handling was not confirmed since access to microfinance indicated a positive and non-significant effect on quality post-harvest handling among coffee farmers. This finding is in line with Ojong and Simba (2019) who found that ensuring access to financial capital, creating an enabling environment that fosters structural and relational social capital, and providing training would constitute a much better approach to helping poor entrepreneurs.

This finding is also consistent with previous research findings such as (Burt 1992; Walker, Kogut, Shan, 1997), the different positions in the social network (made up of borrowers from different groups) influence resource flows, thereby affecting the amount and variety of resources available to micro-entrepreneurs.

5.3 Conclusion

Based on the discussion of how social capital and access to microfinance influences quality post-harvest handling, the results found that higher levels of social capital are associated with better quality post-harvest handling among coffee farmers, we hypothesize that high social capital strategies lead to better performance. As quality, post-harvest handling relies on the social capital pledged by the coffee farmers. This funding reflects the increasing interest in microfinance as part of a more general trend towards socially responsible operations. The

improved quality of coffee harvests depends on the extent to which the society of coffee farmers is conducive to social capital development.

5.3.1 Social capital and quality postharvest handling

The study results revealed that social capital positively influences quality post-harvest handling. The leaders in these social groups play a crucial part in identifying who is trustworthy and therefore worth recommending to a group. They also help to manage the day-to-day activities of the social groups such as keeping farmer records. The study also found that coffee farmers form

networks friends and family networks. Most of the farmers indicated that having social capital improved on their overall post-harvest management practices and better quality coffee.

The study findings also confirmed that coffee famers organize themselves in farmer groups where majority are involved in the same agricultural production in order to help and support each other produce quality output.

In addition, most of the farmers have been able to use the networks within to share knowledge and ideas, which they have used to improve on their coffee, produce.

The study also indicated that leadership in the social groups has been a strong force in helping the farmers improve on their coffee farming practices.

Likewise, trust facilitates cooperation between individuals and encourages joint efforts while information sharing through farmers' networks and trust act as a conduit for information about new technologies facilitating improved coffee processes, effective storage, value addition and adoption of improved transportation systems.

Better access terms and conditions in accessing microfinance encourages coffee farmers to apply

for additional funds from the farmer groups and the BRCFS. They include low interest rates and the availability of personnel to offer these loans. These attract farmers to be able to invest in improving their after-harvest practices such as processing their coffee to add value and thus fetch better prices.

Therefore, social capital through networks is useful because it facilitates knowledge sharing and generation of new ideas through training. Farmers organization in different coffee farmer groups facilitates learning from each other about the proper coffee post-harvest management practices, as well as learning through trainings offered by the associations (BRCFS) and improved trust among members, which leads to improvements in quality post-harvest practices.

5.3.2 Access to microfinance and quality post-harvest handling

Respondents indicated that access to microfinance through access to adequate loan size at low interest rates with favorable lending terms and conditions enable farmers to improve on their coffee postharvest farming practices, through buying more inputs such as pesticides, tarpaulins, rent stores, sieves for their after produce among others and thus improve on the quality of the coffee they produce and get better prices for their produce.

Access to additional funds from MFIs also enables farmers to improve the quality of their coffee post-harvest handling practices, as they were able to simple hulling machines for coffee processing on which they place the coffee for storage, and use of large sieves that are used in winnowing the coffee to try to sort the coffee beans. Furthermore, the quantitative results indicated a positive but statistically insignificant effect of access to microfinance and quality post-harvest handling. This finding implies that when coffee farmers access microfinance services, the quality of post-harvest handling improves.

5.3.3 The mediation effect of access to microfinance on the relationship between social capital and quality post-harvest handling

The qualitative findings established that being in a social group enhances access to microfinance, which improves quality post-harvest handling.

The findings also established that leaders in farmer groups collect the members' savings on their behalf and also forward the same to the Microfinance on behalf of the members and therefore this makes it easy for members to access loans and improve their post-harvest quality.

Respondents indicated that being a member in a group influences the ability to access microfinance loans through collateral and in turn influencing improved postharvest practices. Other findings also indicated that coffee farmers base on trust to stand as surety or guarantee each other in case of need when accessing microfinance.

The partial mediation effect was supported since the mediator (access to microfinance) had no effect on the dependent variable (quality post-harvest handling). The partial mediation implies that there is a significant relationship between the mediator (access to microfinance) and the dependent variable (quality post-harvest handling), and with an indirect relationship between the independent and dependent variable (social capital and quality post-harvest handling.

This implies that, the strong bond developed between micro-entrepreneurs of a lending group, as a result of the regular interactions promoted by the members, gives coffee farmers access to microfinance in the form of favorable lending terms, low interest rates and adequate loan sizes, and this leads to quality post-harvest handling.

5.4 Recommendations

The results of this study have clear policy and practical relevance. Given the objectives of the research study, the researcher has made the findings, discussion and conclusions, the following recommendations:

In light of the research findings, the following recommendations are made;

- The BRCFS should encourage coffee farmers to join farmer groups in order to be able to access these funds and improve on their coffee post-harvest handling practices.
- The SACCO should assist farmers in accessing better markets for their coffee. Whereas coffee farmers indicated that they can grow coffee on a larger scale, they lack markets to sell their coffee and are taken advantage of by the agents who offer them lower prices too.
- There was a significant role that access to microfinance played in order to improve on the post-harvest handling of coffee. These included services such as providing additional funds in form of loans, better access terms and conditions and also through training.
- The BRCFS should set up a centralized storage facility for farmers coffee in order to prevent any impurities or quality deterioration of the coffee beans before they can be transferred to other markets or further processed.
- Social networks in farmer groups are very important in sharing information and generating new ideas. When coffee farmers come together, they exchange knowledge with each other about proper post-harvest practices. This can be done independently or through training availed by the BRCFS. The BRCFS should therefore continue training these farmers on coffee after harvest handling in order to help them improve on the quality of coffee produced.
- The effect of social capital on quality post-harvest can improved through access to microfinance services in terms of adequate loan size, appropriate lending terms and favorable lending rates.

5.5 Areas for further research

The study concentrated on examining how social capital and access to microfinance influence post-harvest handling in coffee growing in Buikwe District. The study explains 53.6% (adjusted R square=.536) influence of social capital and access to microfinance on quality post-harvest handling, other factors explain 53.6% variance. Future research should attempt to widen the scope of study to cover more Districts to ascertain the findings.

Since the study has proved that social capital plays a vital role in improving post-harvest handling practices of coffee farmers, future research should attempt to study the drivers of social capital among coffee farmers.

5.6 Limitations to the study

i. The study was limited to only three variables that were studied. This limited the researcher to only those variables. The study was limited to only Buikwe District. This limited the researcher to only that area where the research was conducted. It is not safe therefore to assume that what works in this area works elsewhere. Therefore, recommendations in this study should be adopted with caution.

ii. Bias from the respondents to simply fill the questionnaires to please the researcher. The researcher solved this by signing a confidentiality statement and having a face-to-face interaction to clarify the purpose and objective of the study.

iii. Methodologically given the time frame allowed for Masters studies at the Makerere University as well as resource constraints, the current study was cross-sectional in nature. With more time and resources, the researcher would have adopted a longitudinal design, which would have enabled examination of quality post-harvest handling during coffee harvest over a long period of time.

REFERENCES

Abass, A. B., Ndunguru, G., Mamiro, P., Alenkhe, B., Mlingi, N., & Bekunda, M. (2014). Post-harvest food losses in a maize-based farming system of semi-arid savannah area of Tanzania. *Journal of Stored Products Research, 57,* 49–57.

Agahi, H. and Karam, S (2012). A study of Factors Effecting Social Capital Management and its Impact on Success of Production Cooperatives. *Annals of Biological Research*, 2012, 3

(8):4179-4188

Aghion, P. Antonin, B. Timo, B., Peter J. and Klenow, H. (2018). *Missing Growth from Creative Destruction:* Federal Reserve Bank of San Francisco Working Paper 2017-04.

Agyekumhene, C., de Vries, J. R., van Paassen, A., Macnaghten, P., Schut, M., & Bregt, A. (2018). Digital platforms for smallholder credit access: The mediation of trust for cooperation in maize value chain financing. *NJAS-Wageningen Journal of Life Sciences*, *86*, 77-88.

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes,* 50:179 – 211.

Anastasia, A. Marjolein B, Cummings, S. and Bunders, J (2015). Producing social capital as a development strategy: Implications at the micro-level. *Progress in Development Studies* 15(2). 170–185

Anyiro, C. (2016). *The effect of social capital on access to micro credit among rural farming households in Abia State*, Nigeria, 4 (2), 23-27.

Asea. U., Kiaya, V and Jones, T. (2014). Post-Harvest Losses and Strategies to reduce them.

Technical paper on Post-Harvest Losses.

Association of Microfinance Institutions of Uganda, AMFIU, (2013). *Annual Report 2012/2013*.

Kampala: Uganda.

Barrett, D., and Twycross, A (2018). *Data collection in qualitative research Evidence-Based Nursing*; 21:63-64.

Bautista Jr, R. A. (2018). Dynamics of Social Capital Among Fair Trade and Non-Fair Trade Coffee Farmers. *DLSU Business & Economics Review*, *28*(1), 97-109.

Benda, G. (2013). Big Data, Special Physics, and Spatial Analyses. The Early Years. *Big Data and Society Journal*, 1(1), 1-14.

Bhandari, H and Yasunobu, K. (2017). What is Social Capital? A Comprehensive Review of the Concept. *Asian Journal of Social Science*, 37 (3). 480-510

Bjorn, G. (2015). The role of human and social capital in dairy farming *Rural Society* 24(2):154-176

Bourdieu, P. 1986. "The Forms of Capital." Pp. 241–58 in *Handbook of theory and research for the sociology of education*, edited by J. G. Richardson. New York: Greenwood Press.

Bryman, A. (2016). *Social Research Methods.* (5th Ed.). Oxford, Oxford University Press (OUP), 181-270

Bryman A, Bell E. Business Research Methods 3e. Oxford: Oxford university press; 2011.

Burt, R. S. (1997). The Contingent Value of Social Capital. *Administrative Science Quarterly* 42 (2),339-365.

Carey, S.; Lawson, B.; Krause, D.R. (2011). Social capital configuration, legal bonds and performance in buyer–supplier relationships. *J. Oper. Manag*, 29, 277–288.

Charmaz, K. (2006). *Constructing grounded theory*: A practical guide through qualitative research approach. 2 (1), 30-37.

Chen, L., Zheng, W., Yang, B. and Bai, S. (2016). Transformational leadership, social capital and organizational innovation. *Leadership & Organization Development Journal*, 37 (7) 843-859.

Cofré-Bravo, G., Klerkx, L., & Engler, A. (2019) . Combinations of bonding, bridging, and linking social capital for farm innovation: How farmers configure different support networks. *Journal of Rural Studies*, *69*, 53-64.

Coleman, J. (2015). Social capital in the creation of human capital. *The American Journal of Sociology*, 94, 95–120.

Creswell, J.W. (2014). Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th Ed.) SAGE

DeJonckheere, M, and Vaughn, L. (2019). Semi structured interviewing in primary care research: balance of relationship and rigour. *Family Medicine and Community Health Journal*. 7 (1)

Duvendack, M. Armendariz B and Labie, M., (2011). *The handbook of microfinance*. World Scientific Publishing Co. 15(2): 181–209.

Easton, G. (2003) Marketing Journals and the Research Assessment Exercise. *Journal of Marketing Management* 19(1-2):205-211 .

Eisenhardt KM. Building Theories from Case Study Research. The Academy of Management Review. Academy of Management; 1989;14: 532–550.

EPRC (2019) -Agricultural Finance Year Book 2019: Developing Financing for Agro-industrialization and Anderson et al (2016) on Farmer Segmentation

Farooq, U.; Tao, W.; Alfian, G.; Kang, Y.S.; Rhee, J. Pedigree traceability system for the agricultural food supply chain to ensure consumer health. Sustainability 2016, 8, 839.

Food Agricultural Organisation, FAO, (2016). *National gender profile of agriculture and rural livelihoods Uganda*: Country Gender Assessment Series, 30 (2).

Food Agricultural Organisation, FAO, (2018). Hunger: *The State of Food Insecurity in the World*, Rome: Italy. 23-26.

Fukayama F. (2002). *Social capital and Development*: The coming Agenda: Published by John Hopkins University Press. 22 (1), .23-37.

Gebru, F. (2016). Reengineering Cooperatives into Enablers of Agricultural Transformation in Uganda. *United Nations Development Programme*, Kampala: Uganda

Gonzalez & Gutierrez, 2012. Cooperation in coffee markets: the case of Vietnam and Columbia. *Journal of Agribusiness in Developing and Emerging Economies Vol. 2 No. 1, 2012, pp. 57:73*

Gyedu, A., Samuel T. Lowor, T., Assuah1, M., Kumi, W and Dwomoh, E. (2014). Assessment of Post- Harvest Handling Effects on Quality of Cashew Nuts and Kernels in Ghana. *Journal of Scientific Research and Reports.* 3(7): 953-965

Hameed A, Hussain SA, Ijaz MU, Ullah S, Pasha I, Suleria HA. Farm to consumer: Factors affecting the organoleptic characteristics of coffee. II: Postharvest processing factors. Comprehensive Reviews in Food Science and Food Safety. 2018;17(5):

Heemskerk, W. and Wennink B. (2015) . Building Social Capital For Agricultural Innovation

Experiences with farmer groups in Sub-Saharan Africa. Royal Tropical Institute (KIT) Amsterdam *KIT Development Policy and Practice,* Bulletin 368 (1), 260-265.

Hong, S Valentina, H., Zhang, L. and Nadolnyak, D. (2018). The Influence of Social Capital on

Farm Household's Borrowing Behavior in Rural China. *College of Economics & Management,* South China Agricultural University, Guangzhou, China.

Inkpen, A.C.; Tsang, E.W.K. (2005). Social capital, networks, and knowledge transfer. *Acad.*

Manag. Rev., 30, 146–165.

Inaba Y (2011) *Introduction to Social Capital:* From Isolation to Ties. Tokyo: Koron Shinsha

International Coffee Organisation, ICO, (2019). *The Coffee Sector Profile*. Uganda.

International Coffee Organization – ICO, (2010). *Coffee: World Markets and Trade*. 2018/19

Forecast Overview: USDA. Washington-US.

International Financial Corporation, IFC (2017). *Access to Finance for Smallholder Farmers Learning from the Experiences of Microfinance Institutions in Latin America*. World Bank.

Johnson, N.L.; Suarez, R.; Lundy, M. (2003). The importance of social capital in Colombian rural agro- enterprises. In Proceedings of the 25th International Conference on Agriculture Economic (IAAE), *Event Dynamics, Durban, Africa*; pp. 1152–1158.

Joost, R., Shambachew, H., Mare, I, Mugenzi, P. and Mukwana, P (2018). *Finance for Smallholders: Opportunities for risk management by linking financial institutions and producer organisations*. Npm platform, 5-9.

Kaasa, A. (2009). Effects of different dimensions of social capital on innovative activity: Evidence

from Europe at the regional level. *Technovation, 29*(3), 218-233.

Kombo, D and Tromp, A. (2010). *Proposal and thesis writing*. Nairobi: Kenya. Pauline Publications.

Kyazze, L. (2010). Cooperatives: The sleeping economic and social giants in Uganda. Dar es

Salaam: International Labour Organization (ILO).

Levitt, M., Motulsky, L., Wertz, J., Morrow, L and Ponterotto, G. (2017). Recommendations for Designing and Reviewing Qualitative Research in Psychology: Promoting Methodological Integrity. *Qualitative Psychology Journal*, 4(1), 2–22.

Light, I. and Dana, L. (2013). *Boundaries of social capital in entrepreneurship.* Entrepreneurship Theory and Practice. onlinelibrary.wiley.com/doi/10.

Lin, N. (2012). *Sociology, Social Theory*: Structural Analysis in the Social Sciences. Duke

University, North Caroline: Cambridge University Press.

Li, Y.N.; Ye, F.; Sheu, C. (2014). Social capital, information sharing and performance: Evidence from china. Int. J. Oper. Prod. Manag. 2014, 34, 1440–1462.

Lin, C.S.; Chang, R.Y.; Dang, V.T. (2015). An integrated model to explain how corporate social responsibility affects corporate financial performance. *Sustainability*: 8292–8311.

Marco, M. and Patuelli, R. (2016). *Social Capital, Institutions and Policymaking*. Economics Discussion Papers, No 2016-26, Kiel Institute for the World Economy. http://www.economics-ejournal.org/economics/discussionpapers/2016-26

Martin Gaag and Martin Webber (2008) . Measurements of Individual Social Capital. Social Capital and Health, 2008 ISBN : 978-0-387-71310-6

Markelova, H., R. Meinzen-Dick, J. Hellin, and S. Dohrn. 2009. Collective action for smallholder market access. Food policy 34 (1): 1-7.

Mason M. (2010). Sample size and saturation in PhD studies using qualitative interviews. Forum Qualitative Sozialforschung/Forum: Qualitative Social Research.

Mutebi, K., Stanslus Okurut, S., Susan Ajambo, S.,, Kephas Nowakunda, K., Stoian, D. and Naziri, D. (2018). Postharvest Losses and their Determinants: A Challenge to Creating a Sustainable Cooking Banana Value Chain in Uganda. Sustainability, 10 (1), 2381-2390.

Mcdonnell, R. (2017). Precision agriculture: How can small farmers benefit from large farm technology? 23(3), 40-45.

Meena, S, Ashwani, K., Singh, K. and Meena, H., R (2009). Farmers' Attitude Towards Post-Harvest Issues of Horticultural Crops. *Indian Research Journal for Extension Education* 9(3), September, 2009.

Megyesi, M. (2016). Landscape after accession: the effects of agricultural and rural policies on farming – results of a case study conducted in Western-Hungary. HÉTFA Research Institute. *Working paper series*, 6(2). 25-28.

Microfinance Support Centre, MFSC (2016). Microfinance Centre 2016 Annual Report. 20 years of Service. Kampala: Uganda. April. 2016.

Ming Q, Fang H, Liu X, Yuan B, Xu J. (2019). Consolidating Access to finance for forest and farm producer organisations. *Lancet 2015*; 386:1484

Ministry of Agriculture, Animal Industry and Fisheries, MAAIF, (2016). African Fine Coffee Association- *AFCA- Annual Report, 2016*. Kampala: Uganda. 34-35

Ministry of Agriculture, Animal Industry and Fisheries, MAAIF, (2017). *Annual Performance report, 2016/2017*. Kampala: Uganda, 5-10

Mungai, C. (2015). *Which African countries produce the most coffee? Mail & Guardian Africa*:

Explore the latest strategic trends, research and analysis, 29-33

Mutasa, P. O. 2010). The Student's Guide to Research Ethics. (2nd Ed.). Open University Press, London. 34-37.

Nahapiet, J and Ghoshal, S. (2011) .Social capital, intellectual capital, and the organizational advantage Janine Nahapiet; Sumantra Ghoshal Academy of Management. *The Academy of Management Review*, 23 (2). 242-246.

Namely, E., Woodsong, C. Macqueen, M, Guest, G and Natasha, M. (2005). Qualitative research methods. *A data collectors field guide*. FHI, http://www.fhi.org

Nuwagaba, A. (2014). Micro Financing of Small and Medium Enterprises (SMEs) in Zambia. *International Journal of Business and Management Invention*. 4 (8), 48-56

Ojong, S. and Simba, M. (2019). Fostering micro-entrepreneurs' structural and relational social capital through microfinance. *Journal of Small Business and Entrepreneurship*, 3(1), 9-10.

Park, H.; Tsusaka, T.W.; Pede, V.O.; Kim, K.M. (2017). The Impact of a Local Development Project on Social Capital: Evidence from the Bohol Irrigation Scheme in the Philippines. *Water*, 9, 202.

Poli, D (2016). Financing For Development: Progress And Prospects Report of the Inter-agency Task Force on Financing for Development 2017. UN Publications, New York. 23-30

Portes, A. (2011). *Social Capital: Its Origins and Applications in Modern Sociology*. Annual Review of Sociology (32(1), 7-18.

Ruben, R., & Heras, J. (2012). Social capital, governance and performance of Ethiopian coffee cooperatives. *Annals of Public and Cooperative Economics*, *83*(4), 463-484.

Roscoe, J (1975). *Fundamentals Research Statistics for Behavioral Sciences*. (2nd. Ed.)

Interpersonal Computing and Technology: An electronic Journal for the 21st Century. 5-7

Sagarik, D. (2016). The Role of Microfinance In Advancing Smallholder Agriculture. Academic Fora, 76(3), 62-76.

Saqib, S., Kuwornu, J., Ahmad, M. and Panezai, S. (2018), Subsistence farmers' access to agricultural credit and its adequacy, *International Journal of Social Economics*, 45(4) 644-660.

Shaw, T. (2015). Post-2015 Natural Resource Governance in Africa: African Agency and Transnational Initiatives to Advance Developmental States. Cambridge *Journal of Economics* 25 (3): 289–314.

Siggelkow, N. (2007). Persuasion with case studies. Academy of Management Journal, 50(1), 20-24.

Sekyi, S., Abu, B. M., & Nkegbe, P. K. (2017). Farm credit access, credit constraint and productivity in Ghana. *Agricultural Finance Review*.

Snider, A., Gallegos, A. A., Gutiérrez, I., & Sibelet, N. (2017). Social capital and sustainable coffee certifications in Costa Rica. *Human Ecology*, *45*(2), 235-249.

Strauss, A., & Corbin, J. (2008). *Basics of Qualitative Research*: Techniques and Procedures for Developing Grounded Theory (3rd Ed.). Thousand Oaks, London, SAGE Publications.

Suárez, A. E., Gutiérrez-Montes, I., Ortiz-Morea, F. A., Ordoñez, C., Suárez, J. C., & Casanoves, F. (2021). Dimensions of social and political capital in interventions to improve household well-being: Implications for coffee-growing areas in southern Colombia. *Plos one*, *16*(1), e0245971.

Susano, Y (2013). The relationship between human capital and social capital in professional-client relationships. *Organizational Stream Journal*, 2 (1), 1-7

Talavera, O.; Xiong, L. and Xiong, X. (2012). Social capital and access to bank financing: The case of Chinese entrepreneurs. *Emerging Issues in Marketing, Finance and Trade Journal*, 48, 55–69.

Tristan, C. (2018). Functions of social capital – bonding, bridging, and linking. Social Capital Research & Training, Dunedin, New Zealand.102-110.

Uganda Bureau of Statistics, UBOS, (2017) . The National Population and Housing Census 2014 *Area Specific Profile Series, Buikwe District, Uganda*.

Uganda Coffee Development Authority, UCDA (2017). *UCDA Monthly Report for July 2017*. MAAIF: Kampala- Uganda

Uganda Coffee Development Authority, UCDA (2018). *UCDA Monthly Report for March 2018.* MAAIF: Kampala- Uganda

Widén-Wulff, G. (2008). Information Behaviour Meets Social Capital: A Conceptual Model.

Journal of Information Science 34(3):346–55.

World Bank (2017). Missing Food – The case of postharvest grain losses in Sub-Saharan Africa. 2017. World Bank – FAO – Natural Resources Institute. World Bank Report

Yin, K. (2014). *Qualitative Research from start to finish*. 143-147.

Yin, R. K. (2009). Case studies: design and methods , 4th ed. Thousand Oaks: Sage Publications

Yoshimich, W (2013). Social capital in theory and practice: where do we stand? Social Capital

and Economic Development: Well-being in Developing Countries, Cheltenham, UK

Appendices

Appendix 1: Questionnaire

MAKERERE UNIVERSITY

Dear respondent,

I am Nabaloga Catherine MBA, student. I wish to gather data on**, Social Capital, Access to Microfinance and Quality Post-Harvest Handling in Coffee Growing**. The coffee farmer will be randomly selected from the list of eligible farmers identified. We kindly request for a few minutes of your valuable time to fill this questionnaire. The study is purely for academic research.

Thank you so much.
Nabaloga Catherine
MBA, student

Section 1: Respondents details: Background Information

1.1 What is your gender Male ☐ Female ☐

1.2 What is your highest level of Education?

NO formal education	Primary	Secondary	Technical	University	Post Graduate (specify)

1.3 Age of the respondent

< 18-30 years	31-40	41-50	Above 50 years

1.4 How large is your farm (Land holdings)?

< 1 hac	1-2 hac	2-3 hac	Above 3 hac

1.5 What is your position in the group?

Leader	Treasurer	Secretary	Member

1.6 What types of services do you get from these groups or associations?

Farming advice	Access to markets	Access to inputs	Storage facilities	Access to finance

1.7 How long have you been in coffee farming (farming experience).

<4 years	4-8 years	8-12 years	Above 12 years

1.8 In the past 12 months, have you saved money with any of the following?

Group saving	SACCO	MFI	Savings and credit group (VSLA)	Friends and family

1.9 Do you have sources of income other than farming.

Full-time employment outside the farm.	Part-time employment outside the farm.	Retirement income.	Income from personal investments.	Income from a family trust.

SECTION2: Access to microfinance, social capital and quality post-harvest: This section shows items as they relate to the study variables, please read the statement and tick the number corresponding to the response. *Key: 1-**Strongly Disagree; 2-Disagree; 3-Uncertain; 4-Agree; 5-Strongly agree.***

	Access to Microfinance					
		SCALE				
		1	2	3	4	5
	Loan size	1	2	3	4	5
AM1	Being in a group enables me to access funds that I want.	1	2	3	4	5
AM2	Having a lending group helps me to meet my financial needs	1	2	3	4	5
AM4	Having a group enables me to get any amount of funds.	1	2	3	4	5
AM5	Being a group member enables me to meet all the requirements to access adequate loan amount.	1	2	3	4	5
AM6	In the event of an emergency, I can get extra money through my association.	1	2	3	4	5
	Interest rates					
AM7	I always have access an affordable lending rate.	1	2	3	4	5
AM8	I always have a payment plan for inputs, such as seeds, fertilizers, or pesticides	1	2	3	4	5
AM9	I access low rates for my coffee project.	1	2	3	4	5
AM10	Interest rates are periodically reviewed according to our needs.	1	2	3	4	5
	Lending Terms and conditions					
AM11	The conditions offered by services providers puts in place allow me to get credit.	1	2	3	4	5
AM12	I am always satisfied with the terms offered	1	2	3	4	5
AM13	I always access loan with ease	1	2	3	4	5
AM14	My lending partners give me convenient payment terms	1	2	3	4	5
AM15	The terms favour me to continue using microfinance services for further investments in my coffee production.	1	2	3	4	5
	SOCIAL CAPITAL					
	Social networks	1	2	3	4	5
SC1	I have an active membership with of a farmer based organisation.	1	2	3	4	5
SC2	We relate well with each other.	1	2	3	4	5
SC3	I have active Membership to coffee cooperatives.	1	2	3	4	5

SC4	I am always involved in the activities of the SACCO.	1	2	3	4	5
SC5	The SACCO activities always support my post coffee harvesting activities.	1	2	3	4	5
SC6	The networks facilitate our access to Microfinance	1	2	3	4	5
SC7	Our association strengthens our relationship among the members.	1	2	3	4	5
	Knowledge sharing					
SC8	The association always offer post coffee handling training to us as farmers.	1	2	3	4	5
SC9	Information provided has improved on the quality of my coffee.	1	2	3	4	5
SC10	We always access information freely.	1	2	3	4	5
SC11	The association has improved my financial knowledge.	1	2	3	4	5
SC12	I have gained access to social support programs through my Association	1	2	3	4	5
SC13	My network facilitates information exchange.	1	2	3	4	5
SC14	Our Association provide members with the accessibility to information.	1	2	3	4	5
SC15	Our association builds our capacity with knowledge.	1	2	3	4	5
	Trust	**1**	**2**	**3**	**4**	**5**
SC16	We have trust with each other.	1	2	3	4	5
SC17	We always carry out activities together (storage, packaging, harvesting).	1	2	3	4	5
SC18	We have collaborative actions within our association.	1	2	3	4	5
SC19	We have interpersonal trust	1	2	3	4	5
SC20	Our Association always fulfil its duties in a trustworthy manner	1	2	3	4	5
SC21	I have Confidence in this Association.	1	2	3	4	5

	Collective actions	**1**	**2**	**3**	**4**	**5**
SC22	We have access to parties who possess knowledge	1	2	3	4	5
SC23	This Association encourages innovative activity.	1	2	3	4	5
SC24	My association encourages us to invest more in R&D projects	1	2	3	4	5
SC25	I am always motivated to engage in knowing post-harvest activities.	1	2	3	4	5
SC26	I have gained the ability to recognize, assimilate and use new knowledge	1	2	3	4	5
SC27	My network enables us to Connect different creative ideas	1	2	3	4	5
SC28	My association facilitates innovation.	1	2	3	4	5
	QUALITY POST HARVEST HANDLING					
	Processing, storage, value chain and transportation					
FP1	The post-harvest activities always help to maintaining quality of the coffee.	1	2	3	4	5
FP2	We ensure proper handling of the coffee	1	2	3	4	5
FP3	We safeguard protection of the coffee produce after the harvest.	1	2	3	4	5
FP4	Maintaining the taste of the coffee products is fundamental to the market.	1	2	3	4	5
FP5	We ensure appropriate post-harvest quality measures such as effective drying.	1	2	3	4	5
FP6	We always achieve the desired coffee quality	1	2	3	4	5
FP7	We carry out post-harvest processing steps in a more stable, transportable, and roastable form.	1	2	3	4	5

FP8	We have sufficient drying procedures.	1	2	3	4	5
	Storage	**1**	**2**	**3**	**4**	**5**
FP9	We have an effective storage facility.	1	2	3	4	5
FP10	We manage our coffee stores effectively with key stock records.	1	2	3	4	5
FP11	Our storage facilities helps us to maintain the coffee quality.	1	2	3	4	5
FP12	We have standard equipment's to store the coffee products sufficiently.	1	2	3	4	5
FP13	Our storage activities result in higher returns.	1	2	3	4	5
	Value addition					
FP14	We have appropriate value chain mechanism	1	2	3	4	5
FP15	We always provide consistent value chains to ensure quality coffee.	1	2	3	4	5
FP16	Our association always extends service on value addition.	1	2	3	4	5
FP17	Our association arrange partnership among the value chain actors that market our coffee products.	1	2	3	4	5
FP18	We always grade our coffee to attract a higher market price	1	2	3	4	5
FP19	We are always provided with improved coffee inputs for better methods of	1	2	3	4	5
	increasing farm level processing.					
FP20	Our cooperative efforts increase the bargaining power.	1	2	3	4	5
FP21	Our post-harvest activities increase coffee value addition at farm level.	1	2	3	4	5
FP22	Our harvested coffee always meets the required standards due to the uniformity.	1	2	3	4	5
FP23	We carry out post-harvest process in a controlled manner to maintain the value.		2	3	4	5
FP24	We usually package our coffee in sisal bags of woven natural materials.	1	2	3	4	5
	Transportation					
	We have transport our coffee using effective means of transport from the farm to the store.	1	2	3	4	5
FP25	Our transport means are more suitable for handling bags.	1	2	3	4	5
FP26	We ensure safe transport of the coffee.	1	2	3	4	5
FP27	We have partnerships with transport companies.	1	2	3	4	5
FP28	We use specialized vehicles to transport our coffee to the market.	1	2	3	4	5

THANK YOU FOR YOUR TIME

Appendix ii: Interview guide for leaders of Buikwe Riis Coffee Farmers' SACCO Limited

Self-introduction

Researcher – Will introduce herself and the purpose of the study, seek consent of the respondent

Respondent- Introduce him/herself and affirm consent to be part of the study

Section 1: Social network and Access to Microfinance

i. In what ways does this SACCO help social groups?

ii. What services does this SACCO offer to coffee farmers?

iii. In your opinion, how do Social Networks among coffee farmers facilitates their access to Microfinance?

Section 2: Social Capital and Post- Harvesting handling

iv. In which ways do coffee farmers relate with each other as they seek for financial assistance?

v. Are there financial advice and assistance this SACCO offers to farmer?

vi. In your opinion, explore how social capital among coffee farmers reflects on their post-harvest handling behavior?

Section 3: Social Capital, Access to Microfinance and Post-harvesting handling

vii. In your opinion, how does social capital among coffee farmers to post-harvesting handling?

viii. In which way does access to microfinance help support in post-harvest handling of coffee among farmers in Buikwe District?

Appendix iii: Guide for Interviews and Focus Group Discussion

In the discussions between the researcher and the study participants, the following will be some of the guiding questions

TOPIC 1: BIODATA

Questions on Personal /Background questions

i) How old are you?
ii) How large is your farm?
iii) What other crops, apart from Coffee do you grow?
iv) What are your primary motives for growing coffee?
v) What is your level of education?

TOPIC 2: ACCESS TO MICROFINANCE

Discussion areas and questions on access to microfinance

i) Have you ever used microfinance in funding your agriculture? Or Have you used the money you borrowed from the MFI to improve your coffee/agriculture production? Why/why not? If not what have used it for instead and why?
ii) If yes, please tell us more about your experience? For how long have you used some sort of Microfinance service?
iii) What are some of the conditions the SACCO puts in place before allowing you (farmer) to get credit? In your opinion, are theses loan terms and conditions good? Why do you think so?
iv) How do you (farmers) receive the credit and how do you make back your repayments? Using mobile phone, bank visits or through some other channel? Specify which one. Are you satisfied with the channel used? Why/why not?
v) Has micro credit been useful to you as coffee farmers after harvesting? In which way have your post harvesting activities been supported by microcredit from BRCFS
vi) Which will to make you more inclined to invest in your coffee/agricultural production?
vii) Do the MFI credit services you get help you get services like education or any form of Agricultural training and weather insurance?
viii) If no what services would you prefer to have these services as part of the Microfinance Services from your SACCO? and why?

ix) If yes, what effects have you seen on your post-harvest farming activities as a result of getting these services from your SAACO?

x) What is your general view of the microfinance services that you have used? Will you continue using microfinance services for further investments in your coffee/agricultural production? Why/why not?

xi) Would you recommend anyone to take up microfinance to boost their coffee/agriculture production? If yes why /if not then why?

xii) Is there anything that you would like that it should be changed in microfinance services provided to you, that you think can make better your access to micro credit?

TOPIC 3: SOCIAL CAPITAL

Questions about social capital

i) Are you a member of a farmer based organisation, such as the "Mabira Coffee farmers 'association or Buikwe- RIIS Coffee farmers SACCO"? If not do you belong to other farmer groups?

ii) Which groups do you belong or relate to? Has the BRCFS helped you as a group? Which activities of the SACCO are directed to all the group members?

iii) Have these activities supported your post coffee harvesting activities? In which way?

iv) How often does BRCFS offer post coffee handling training to you farmers? Does this training help you to improve on the quality? If yes, in which way? What else have you benefitted from BRCFS?

v) Would you recommend any of other farmers to join BRCFS, or any other similar microfinance? Why would you do so? If not, why would you not recommend them?

TOPIC 4: POST-HARVEST HANDLING

i) Questions about topical areas on post-harvest handling How much do you harvest in kilograms/sacks?

ii) Please briefly explain the activities you undertake for a typical harvesting season.

iii) As part of your post harvesting activity, how do you dry your coffee?

iv) Apart from drying coffee, what other post harvesting activities do you do?

v) Where do you keep your coffee before selling it?

vi) How do you process your coffee? Naturally or Wet processing?

vii) Do you have a separate storage house? Ventilated/ Leak proof/ cemented?

viii) Under what conditions do you store your coffee? Same house you reside/Separate store/Animal house? Specify

ix) If storing yourself why? If shared storage has that had a positive impact on your coffee price? At what stage do you sell your coffee? Processed/ Or unprocessed?-specify and why

x) How do you transport your coffee? Motorcycle/Bicycle/Wheelbarrow/Van-Specify Where do you sell your coffee?