Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Department of Economics

Microfinance in Ugandan coffee farming

- a case study of coffee farmers in the Ugandan savings & credit cooperative “Buikwe Riis Coffee Farmers”

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Master's thesis • 30 credits
Agricultural programme – Economics and Management
Degree project/SLU, Department of Economics, 1216 • ISSN 1401-4084
Uppsala, Sweden 2019

Microfinance in Ugandan coffee farming - a case study of coffee farmers in the Ugandan savings & credit cooperative “Buikwe Riis Coffee Farmers”

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Credits: 30 credits
Level: A2E
Course title: Master thesis in Business Administration
Course code: EX0906
Programme/Education: Agricultural programme – Economics and Management
Course coordinating department: Department of Economica

Place of publication: Year of publication: Cover picture: Uppsala 2019
Title of series: Christian Pålsson
Part number: Degree project/SLU, Department of Economics
ISSN: 1216
Online publication: 1401-4084 http://stud.epsilon.slu.se

Key words: agriculture, coffee farming, financial constraining, grounded theory, inductive, microfinance, qualitative, Uganda

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Abstract

This thesis argues for utilizing microfinance when supporting Ugandan coffee farmers developing their coffee farming. To increase the effectiveness of microfinance in this context a modification of its repayment scheme is needed so it is to be more relatable to the special production properties that coffee farming inherently has. In order to further increase its effectiveness, it needs the support of three other inputs. The three other inputs suggested in this thesis is “provision of saving facilities”, agricultural and financial training” and lastly “network extension”. Through the tailoring of the microfinance scheme together with the inclusion of these aforementioned inputs the financial constraint that exist in Ugandan coffee farming as of 2019 can be reduced. The thesis argues that this will, in turn, lead to a more competitive Ugandan agricultural sector which will, arguably, affect the income of its farmers in a positive way.

The previous statement is grounded in the argument that agriculture is an important tool when trying to address the eradication of poverty in developing countries. Uganda was selected for this research because of its potential of becoming a competitive agricultural exporter and due to the fact that coffee is a major cash crop for Ugandan farmers. It is currently, however, struggling to achieve strong competitiveness due to the financial constraint that exist for Ugandan smallholder farmers. More available financial capital can enable the Ugandan farmers to buy important production inputs such as fertilizer. Microfinance has the purpose of providing small and medium-size firms with financial capital which they cannot attain from conventional sources such as commercial banks.

The thesis conducted semi-structured interviews with small/medium sized farmers in Uganda. The theory that emerged from the data concluded that microfinance should be seen as an integral part in making Ugandan coffee farming more productive. However, it needs the support of the three aforementioned inputs in order to increase its effectiveness when supporting said farmers. The generated theory found support for its main arguments from previous scientific research conducted on the subject.

Sammanfattning
”Mikrofinans i Ugandiskt kaffejordbruk”

Jordbruk ses som en viktig del i arbetet med att minska fattigdomen i utvecklingsländer. Mikrofinansiering har som mål att genom enklare och mindre lån erbjuda finansiering till de människor i dessa länder som har svårt erhålla lån genom traditionella källor såsom kommersiella banker. Denna uppsats hade som mål att undersöka om mikrofinansiering kunde användas för att stödja utvecklingen av ett mer produktivt kaffejordbruk i Uganda. Målet var också att ta reda på hur mikrofinansiering kan förbättras för att mer effektivt agera som stöttepelare till Ugandas kaffejordbruk. Detta mål hade sin bakgrund i att Uganda har en stor potential att bli en konkurrenskraftig producent av kaffe men dess bönder har svårt att uppnå en hög produktivitet. En av anledningarna till detta är bristen på tillräckligt finansiellt kapital till att genomföra produktionsförbättrande investeringar. Eftersom kaffe är en stor inkomstkälla för Ugandas småskaliga bönder var det således av intresse att genomföra en studie huruvida mikrofinansiering kan underlätta för bönderna att genomföra dessa nödvändiga investeringar.

Uppsatsens fokus låg på att undersöka om kaffebönderna själva har upplevt mikrofinansiering har varit ett bra stöd i deras produktion. Uppsatsen utgick från ett kvalitativt synsätt med semistrukturerade intervjuer samt fokusgrupper som datainsamlingsverktyg. Det empiriska materialet blev kodat genom grundad teori vilket utmynnade i utvecklingen av en ny teori. Denna teori gav förslag på hur mikrofinansiering kan användas i kombination med andra insatser för öka dess effektivitet när det gäller att finansiera kaffejordbruk i Uganda. De andra insatserna var ”jordbruks- och finansiell träning”, ”möjlighet att spara”, samt ”nätverksutökande”.

Teorins huvudargument har funnit stöd i tidigare studier på området och sällade sig till tidigare forskning som stödjer användandet av mikrofinansiering i utvecklingsländer och även så inom jordbrukssektorn. Teorin lämnade däremot reservation för att mikrofinansiering behöver stöd av andra faktorer för att mer effektivt stödja produktionsförbättrande investeringar i Ugandas kaffejordbruk.

Table of Contents

1 INTRODUCTION 1

1.1 Problem background 1
1.2 Problem statement 2
1.3 Aim and delimitations 4
1.4 Structure of the report 5

2 LITERATURE REVIEW AND THEORETICAL PERSPECTIVE 6

2.1 Literature review of previous microfinance theory 6
2.2 Risk management and its importance in agriculture 8
2.3 Education and its effect on agricultural productivity 9
2.4 Finance and its impact on farm growth 10
2.5 Theoretical summary 11

3 METHODOLOGY 12

3.1 Approach and perspective 12
3.2 Case study 14
3.3 Literature review 15
3.4 Sampling of respondents 16
3.5 Data collection 17
3.6 Data analysis 19
3.7 Ethical considerations 22
3.8 Trustworthiness and authenticity 22

4 EMPIRICAL DATA 25

4.1 Overview of Uganda, its agriculture and its MFIs 25
4.2 Overview of coffee production in Uganda 25
4.3 Buikwe Riis Coffee Farmers 26
4.4 Interview with the coffee farmers 27
4.4.1 Overall impression of microfinance 28
4.4.2 Conducted investments 28
4.4.3 Agricultural training 29
4.4.4 Insurance 31
4.4.5 Saving 31
4.4.6 Credit borrowing and repayment 32
4.4.7 Recommendation to use microfinance 33

5 ANALYSIS AND DISCUSSION 36

5.1 Data analysis using grounded theory 36
5.1.1 Concept generation 37
5.1.2 Category generation 38
5.1.3 A framework for utilizing microfinance when supporting coffee farmers 42
5.2 Discussion 44
5.2.1 Risk management and its importance in agriculture 44
5.2.2 Education and its effect on agricultural productivity 45
5.2.3 Finance and its impact on farm growth 46
5.2.4 Contribution of generated theory to the microfinance field 47

6 CONCLUSIONS 49

6.1 Limitations for research 49
6.2 Recommendations for further research 50

REFERENCES 51

Books, reports and scientific articles 51
Internet references 55

APPENDIXES

List of figures

Figure 1: Structure of the report 5
Figure 2: Financial Development and Economic Growth: Views and Agenda 11
Figure 3: Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology 20
Figure 4: Processes and results in grounded theory 21
Figure 5: "The Uganda Map" 27
Figure 6: Model of the grounded theory inspired approach of the data analysis 36
Figure 7: Model of "A framework for utilizing microfinance when supporting coffee farmers" 43

List of tables

Table 1: Personal properties of the participating farmers 27
Table 2: Example of concept generation from empirical evidence 37

Acknowledgements

I would like to thank my supervisor in Sweden Karin Hakelius for supporting me with advice during the whole process of writing this thesis. I also would like to thank my two Ugandan supervisors Rebecca Namatovu and Catherine Komugisha Tindiwensi for helping me especially in the beginning of this writing process and during my visit in Uganda. I thank also “Buikwe Riis Coffee Farmers” for enabling me to meet and interview their members thus making the data collection of this thesis possible. Lastly, I would like to especially thank my now very dear friend (kamrat) Catherine Nabaloga for taking such good care of me during my data collection in Uganda.

List of Definitions

GDPR: General Data Protection Regulation: “regulates the processing by an individual, a company or an organisation of personal data relating to individuals in the EU” (www, European Commission 2019).

Growth: Defined by the Cambridge dictionary in regards to economics as: “an increase in the ability of an economy or business to produce goods and services” or it can be defined as: “an increase in size, amount, degree, level, etc” (www, Cambridge Dictionary 2019).

Hectare: A hectare is defined according to Encyclopedia Britannica as: “unit of area in the metric system equal to 100 ares, or 10,000 square metres, and the equivalent of 2.471 acres in the British Imperial System and the United States Customary measure (www, Encyclopedia Brittanica 2019).

MDI: Micro-Deposit Institution or MDI, is a microfinance institution which are allowed to save their customers money (AMFIU 2015).

MFI: Microfinance institution (Gutierrez-Nieto et al. 2007)

Moral Hazard: Defined by the Cambridge Dictionary as: “a situation in which people or organizations do not suffer from the results of their bad decisions, so may increase the risks they take” (www, Cambridge Dictionary 2019).

Poverty: Defined by the World Bank as a person who lives on less than 1.9$ per day (www, World Bank 2019).

Property Rights: Defined by the Cambridge Dictionary as: “the rights of people and companies to own and use land, capital, etc. and to receive a profit from it” (www, Cambridge Dictionary 2019).

Risk: Risk can be defined as the probability that your business experience an event which leads to negative consequences to for example the profit of the enterprise (www, Cambridge Dictionary 2019).

SME’s: In Uganda a SME (small-medium enterprise) is defined as an enterprise which have between 5 or 100 employees or it has a turnover between 10 and 360 million Ugandan shillings (2650 to 95400 USD) (www, Uganda Investment Authority 2019).

Sacco: Savings and credit cooperative (AMFIU 2015).

Medium-sized farmer: In Uganda a medium-sized farmer is defined as a farmer who own land which is equal to or less than 2,76 hectares (FAO 2012).

Transaction Costs: Defined by the Cambridge Dictionary as: “an amount paid in order to buy or sell something in addition to the price of the thing itself, for example legal costs” (www, Cambridge Dictionary 2019).

1 Introduction

This chapter provides a background to previous microfinance theory and the state of agriculture in Uganda today and more specifically on the state of its coffee farming. After the background is presented a theoretical and an empirical problem will be identified which will relate to the background of this research. This will be done in order to clarify the relevance of conducting this particular research. When the problems have been determined the aim and research question for the thesis will be presented. Lastly, the delimitations of this thesis will be decided and elaborated on.

1.1 Problem background

According to Townsend (2015), agriculture is an important tool when addressing poverty eradication. The majority of eastern Africa's poorest live in rural areas where agriculture is the largest employer and it makes up a large share of the rural economy (Weber & Musshoff 2012; Salami et al. 2010). This would mean that an improvement in agricultural production will, in turn, lead to a financial improvement for the poorest in those countries (Weber & Musshoff 2012; Salami et al. 2010). Uganda, which makes up a part of this region has approximately 70% of its population enrolled in the agricultural sector (World Bank 2018). The sector makes up 25% of Uganda's GDP and stands for a 50% share of the country's total export value (World Bank 2018). The country has a very promising potential of becoming a competitive agricultural producer on the global market (World Bank 2018). However it is struggling to achieve this according to a report by the World Bank. One of the major reasons for this is inadequate sources of financial capital available to the country's farmers. Increased availability of financial capital could, for example, help with the purchase of production inputs such as fertilizers or seedlings of higher quality. Access to these inputs would, in turn, improve the agricultural output of a farm. The World Bank report is suggesting that an improved trade in agricultural products can help to improve the livelihood of Ugandans which are engaged in the agricultural sector.

The majority of studies conducted regarding financial availability and agricultural performance point to a positive relationship between access to financial sources and agricultural output (Akudugu 2016). However, agriculture is characterized by seasonality, weather dependency, and pests which can all adversely affect the income received from practicing it. This leads to uneven income cycles throughout the year/years which, in turn, entails a highly uncertain forecast of future profits. Because of this reason the farmer is being perceived by lending agencies as a high-risk borrower which in turn causes financial constraint for the farmer (Weber & Musshoff 2013). The World Bank (2018) concludes as well that the production risks associated with agriculture can explain why the Ugandan farmers are being constrained financially. In addition, another factor that is mentioned is the comparable high transaction costs associated with agricultural lending since the farmers tend to be located far from the Microfinance institution's (MFI) physical location. Transaction costs can as well arise from the, as mentioned before, production characteristics which is associated with agriculture, for example, the uneven income cycles. This lead to an uncertain forecast of future profits.

In Uganda, coffee beans are considered to be a major cash crop for many of its smallholder farmers (Wang et al. 2015). As such it is usually considered to be one of the main sources of

income for them. The export of coffee stood, in 2013, for a 30% share of the total value of Uganda's export. Wang et al. (2015) therefore argue that in order to improve the income situation of small-holder farmers, it is necessary that the productivity of coffee farming in Uganda is improved. The study mentions different factors that are currently limiting the development of more productive coffee farming in Uganda. Diseases, pests, and infertile soils are some examples of limiting factors that are brought up. The authors put some of the blame regarding the infertile soils to a lack of financial capital for the small-holder farmers. Access to sufficient financial capital can help the coffee farmers buy fertilizer which could lead to improvement of the fertility of the soil. Another problem is the lack of proper water management such as irrigation practices. However, the implementation of said practices in Ugandan coffee farming today is limited due to the high costs associated with conducting such an investment. A report from the World Bank (2018) regarding the state of Ugandan agriculture also reaches the same conclusion that an improvement in fertilizer application will result in increased agricultural productivity in Uganda. In 2012, 8% of Ugandan small-holder farmers used inorganic fertilizers in their production (World Bank 2018). The report also expresses worry that Ugandan agriculture is one of the least prepared in the world to handle the increasing threat of climate change. At the same time, it is one of the most exposed in the world to the detrimental effects of a changing climate. Irrigation is seen as one of the most vital investments that have to be conducted to tackle this problem. The government of Uganda has, on top of this, expressed a desire to make the Ugandan agricultural sector more commercialized than it is as of 2018. McArthur & McCord (2017) found that inputs such as fertilizer and better seeds play a very significant role in increasing crop yields. In turn, they state that they have found evidence which points to a positive relationship between increased crop yields and stronger GDP growth of an economy. The conclusion would be that in order for an economy to develop it needs the support of an efficient agricultural system.

Chan & Abdul Ghani (2011) and Al-Mamun & Mazumder (2015), showed in their respective studies that microfinance is a major contributor in creating strong economic opportunities and increasing income for people in lower income countries. Microfinance is defined by Gutierrez-Nieto et al. (2007, p.131) as "small loans to the very poor people for self-employment projects that generate income". The disbursed microcredit is usually handled by a MFI. In other words, an MFI works to ensure that those who are otherwise excluded from borrowing from traditional financing sources, such as commercial banks are included in the financial system. Thus, they are able to receive external credit to conduct investments. The MFI usually doesn't, as opposed to commercial banks, require extensive collateral on the borrower's part. Hence, in theory, those who are worse of economically and not possessing the necessary collateral for a bank loan can instead get funding for their investment from a MFI.

1.2 Problem statement

A study made by Khandker et al. (2016) showed that during a period of 20 years, from 1991 to 2011, farmers in Bangladesh who were included in a microfinance program improved their income situation. However, criticism has been raised regarding the efficiency of microfinance i.e. that it doesn't reach out to those who really need it (Bateman & Chang 2009). Bateman & Chang (2009) state that it works as a hinder instead of an enabler for economic improvement. The authors go on to use an example where trading enterprises are favored due to their comparatively low risk to lend to as opposed to agriculture. By implementing this strategy the MFIs' are disregarding the sector in society (agriculture) which they argue has the biggest

effect on eradicating poverty. They use examples from Cambodia and Kosovo to strengthen their claim that microfinance is a highly unsuitable method when trying to reduce global poverty. Rather, they argue, it is counter-productive in achieving this aim.

Voices have been raised against the relevance of utilizing microfinancing in an agricultural context. A study conducted in Bangladesh by Dalla Pellegrina (2011) came to the conclusion that loans from banks are more effective than standardized microfinance when investing in agricultural production. The biggest reason for this is the short repayment period which is not suitable for the nature of agricultural production. However, according to Weber & Musshoff (2012), regular banks in low-income countries rarely lend to agricultural firms. This is due to low amounts of collateral assets available to the farmers which in turn entails high risks for the banks. Agriculture is being perceived as being a quite risky investment as many factors that affect the income of the farmer adversely can be or are uncontrollable for the farmer (Peck Christen et al. 2005). Examples of production risks are vermin, extreme weather events (for example drought) or crop diseases. In Ghana, findings point to those farmers who receive external credit, be it formal or informal, and have improved their overall agricultural productivity regardless of their respective farm size (Akudugu 2016). The author argues for more flexible lending schemes in order to increase the rate of success for agricultural lending. Thus, there exists a theoretical problem in the microfinance field today as there is conflicting evidence regarding the effectiveness of microfinance when eradicating poverty. More specifically, there exists a debate on whether it is a useful tool to improve agricultural production in lower income countries or if other financial sources are more suitable to this end.

As mentioned previously in the problem background there exist an empirical problem to this as well. Ugandan farmers are being constrained financially which hinders them from expanding or improving their agricultural practices (World Bank 2018). The study conducted by Wang et al. (2015) also came to this conclusion in regards to Ugandan coffee farmers and the reasons for their lack of good productivity. A survey conducted by Anderson et al. (2016) on Ugandan small-holder farmers found that a majority (53%) of the participants primarily borrowed funds from relatives or friends. However, only 25% were certain that they were able to access funds to a value of approximately 34$ within one months' time. The 34$ are considered to be sufficient enough to cover for expenses in times of emergency. Only 7% of the respondents in the study had at some point utilized a savings & credit cooperative to finance their agricultural activities.

From these sources, one can say that there exists a theoretical problem when determining the relevance of using microfinance when trying to improve agriculture in lower-income countries. There exists an empirical problem to this as well, since Ugandan coffee farmers are credit constrained and thus are being limited in improving the productivity of their coffee production. From these stated theoretical and empirical problems it can be said that it is relevant to investigate if microfinance as an institution can be utilized to address productivity issues in Ugandan coffee farming. There also exists an interest to determine if microfinance can be improved to in a more suitable way to handle the more special production conditions that Ugandan coffee farmers face. Thus, the next sub-chapter will present the approach, regarding aim & delimitations, this thesis is taking in order to address these two determined problems.

1.3 Aim and delimitations

The aim of this thesis is to find out how Ugandan coffee farmers perceive the microfinance services that suit the nature of their agricultural production. By doing so conclusions can be reached on how microfinance services can be improved to better fit the special properties of agricultural production and more specifically coffee production. Previous microfinance theory has also stated that current standardized microfinance policies are not suitable to provide investment to farmers. More flexible lending schemes can aid with financial outreach in rural areas and in turn increase agricultural productivity. This makes it interesting to investigate if the farmers themselves believe that the microfinance services provided are relatable to the special income/cost structure that agricultural production has. Uganda has, as mentioned previously, a great potential of becoming a highly competitive agricultural exporter. By increasing the coffee productivity in the country more farmers can arguably be elevated out of poverty. Thus it is of interest to conduct this research on Ugandan coffee farmers which has at some point in time used microfinance. In light of this the research question for this thesis is as follows:

How well do the Ugandan coffee farmers perceive that the microfinance services provided to them suit the nature of their agricultural activities?

This thesis is empirically delimited to Uganda because it has a promising potential of becoming a successful coffee producer as a country. The reason for the delimitation to Uganda is also because such a small amount of farmers have ever used a Savings & Credit cooperative to finance their activities. The thesis is delimited to focus on Ugandan coffee farmers that are members in the savings and credit cooperative (SACCO) “Buikwe Riis Coffee Farmers”. The study will limit itself to farmers that have (a land size of) around or lower than 2,76 ha which is what FAO (2012) defines as a medium-sized farmer in Uganda as of 2012. Those below this limit tend to be below the poverty line and are therefore a very relevant target for MFIs (Anderson et al. 2016). Hence the unit of analysis for this thesis is Ugandan coffee farmers that have at some point used microfinance.

Regarding theoretical delimitations, this thesis is limiting itself to the business administration subfields finance, risk management, and microfinance. These theoretical fields have been deemed by the researcher as the most relevant to use in regards to the thesis’ stated problems and aim.

Concerning the methodological delimitations of this thesis, it is limited to using qualitative, inductive & grounded theory approaches to research. Regarding data collection, it is limiting itself to using semi-structured and focus group interviews. The reason why these specific methodological approaches have been deemed as the most suitable will be further elaborated on in the method chapter of this thesis.

1.4 Structure of the report

This chapter starts with a background to the subject and why it is relevant to conduct research in this particular area of science. Afterward, the theoretical framework that this thesis will use is to be outlined. Thirdly the thesis methodological approach to research the subject will be elaborated on. The fourth chapter is mostly presenting the data resulting from the empirical research that was done in this thesis. After the empirical data has been presented a new theory will emerge from the analysis of said data. The new theory will be supported by previous relevant theory and it will be a discussion on what contributions this theory will make to microfinance as a scientific field. At the end of this thesis, all of the results will be summarized in a short conclusion in regard to the aims of the thesis. Limitations of this thesis and suggestions for further research will also be presented at the end of the conclusion. Below is a model which outlines graphically the aforementioned report structure.

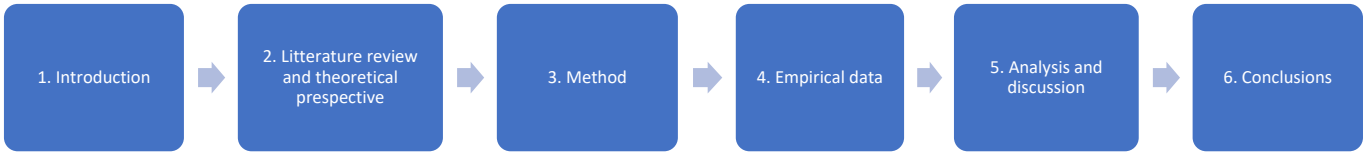

Figure 1: Structure of the report (own processing)

2 Literature review and theoretical perspective

In this chapter, theory will be presented which has been deemed relevant by the researcher to explain the subject of microfinance suitability in a Ugandan agricultural context. First, a literature review will be conducted regarding the state of microfinance research today. Afterwards, theories regarding risk management, education and finance will be presented. All of the theories will have some degree of agricultural context attached to them in order to make them more relevant for this particular research.

2.1 Literature review of previous microfinance theory

Microfinance as an institution started in the 1970s as a response to the failure of traditional banks to provide loans to the poorer population segments in the developing world (Gutiérrez-Nieto et al. 2007). The main focus in analyzing the success of a microfinance institution has been centered on two factors: loan outreach and sustainability of the loans given. Outreach deals with how many costumers the MFI is disbursing funds to and how well the disbursements are functioning. The sustainability issue deals with the rate of repayments which reflects the sustainability of the lending schemes that the specific MFI offers. These two factors can tend to be opposite poles of each other (Hermes & Lensink 2011). If the MFI increases its outreach to poorer clients this can, in turn, lead to increased credit risk for the MFI which then has a negative effect on the financial sustainability of the organization. There also exists a discussion in the microfinance field today whether microfinance really is a suitable tool when trying to address poverty eradication (Gutiérrez-Nieto et al. 2007).

There has been a critique against microfinance made by Bateman and Chang (2009). They argue that MFIs' tend to focus on relatively low-risk trading enterprises shunning those who are in the most need of it due to the high risk it entails to give them credit. Due to favoring traders the dependency on imports for the targeted country increases which results in a decline of the domestic agricultural sector. They use an example from Bosnia that shows the designed conditions to receive a loan led to increased barriers to develop and scale up its dairy production. They further argue that microfinance in India is responsible for an increased debt burden for subsistence farmers. Because of the income structure of said farmers (very volatile and small in size), they shouldn't have been deemed as appropriate to lend to. They also argue that few success stories that have been presented in favor of microfinance exist and overall it is an unsuitable tool to use when addressing poverty reduction.

However, according to a report presented by Peck Christen et al. (2005), there have been successes with microfinance in an agricultural context. The authors state the features which they have found constitutes a successful microfinance scheme in an agricultural environment. They suggest from their findings that lending to a household as one income unit instead of lending to one specific household investment can aid in increasing the probability of repayment. They also state that a more flexible lending scheme which takes into account the uneven cash flow structure of agriculture is a good policy action for a MFI.

A challenge that is mentioned by Peck Christen et al. (2005) is the issue that agriculture can demand investments that can be of higher cost than the total yearly income of a household. An example of this is a pump used to irrigate the fields. The traditional way of a MFI to manage risk such as increasing the interest rates and making the repayments more frequent is

hence not appropriate here. They suggest, for example, that the investment process is done step by step increasing the amount of credit given over time. By leasing the investment the MFI can circumvent the risk of lending to very costly investments. The authors state that membership organizations can lower the transaction costs of the MFI. Another factor for success is to, in combination with granting the loan, bring in external expertise. An example of this is agronomists which can help the credit takers to make well-thought investment decisions.

By offering to handle the credit takers personal savings a MFI can help the credit takers to save for unexpected events and it can be considered as a safer way to build up their assets (Peck Christen et al. 2005). They present evidence that farmers who make bigger investments tend to want to use their own savings (for the investment) instead of borrowing for it. Another action that an MFI can make to lower its risk exposure is to have a wide loan portfolio in which there are credit takers with a wide span of different productions. By doing so the authors argue that the MFI will be able to offer loans more customized to the production properties of agriculture.

The traditional microfinance scheme, as utilized by for instance the Grameen Bank, has been to make use of standardized lending schemes regarding repayment periods (Weber & Mussof 2013). In the standard scheme, the loan is to be repaid over a period of a year. The loan repayment in the standardized scheme starts almost directly after the loan has been handed out. The standard loans can ease the MFI's work regarding the distribution of credit and lower the risks of credit taker bankruptcy. The studies conducted in the microfinance field have found evidence that MFIs' usually center their activities to urban environments. This, Weber & Mussof (2013) argue, is due to the popularity of standardized lending at the MFIs'. This, in turn, leads to that rural environments are excluded from financial services due to the nature of agricultural production which is often characterized by uneven income flows. Weber & Mussof (2013) argue that more flexible lending schemes are more suitable in an agricultural context due to the uneven income cycles often encountered in agriculture especially in crop production. However, flexible lending schemes in microfinance come with the drawback that it is more difficult to handle. It requires, for example, more screening of the credit taker in order to plan an individual repayment scheme.

There have been suggestions made that a MFI should help to provide insurance against for example weather-related events for farmers in combination with the credit lending (Peck Christen et al. 2005; Weber & Mussof 2013). An example of a weather event is indices of drought. Thus, insurance can lower the risk when lending to farmers from the perspective of the MFI. The high uncertainty regarding potentially adverse weather events is one of the main reasons why microfinance institutions have been reluctant to lend to farmers.

In a literature review on the impact of microfinance in Sub-Saharan Africa by Van Rooyen et al. (2012), there are studies that both suggest that microfinance can have a positive and a negative effect on the participating households overall income. Two articles found that microfinance played a role in influencing the participating farmers to plant more different crop types (Van Rooyen et al. 2012). However only one of the studies found evidence that the income had increased by doing this practice. Another study, conducted in Kenya, showed that agricultural income had increased when participating in a credit program (Van Rooyen et al. 2012). However, that study could not determine whether it was microfinance or some other factor that had contributed to the overall increase in income. Van Rooyen et al. (2012) suggest more research to be done on the subject before the effectiveness of microfinance in

eradicating poverty in Africa can be determined. Van Rooyen et al. (2012) go on to state that further research is needed regarding how it can be altered in order to increase its effectiveness in elevating people out of poverty.

2.2 Risk management and its importance in agriculture

Risk is very prevalent in agricultural orientated businesses (Hardaker et al. 2004; Peck Christen et al. 2005). The choices that are made during the management of the farm thus play a major role in how well the business is performing (Hardaker et al. 2004; Peck Christen et al. 2005). Therefore, having a perception of the risk associated with every decision is important. Farmers' face production risks in for example uneven crop yields due to weather, pest and disease outbreaks but as well as fluctuating prices (Peck Christen et al. 2005). There are as well international and internal policy factors that have an effect on the rate of risk exposure for a farmer. Examples of policies can be the introduction or removal of tariffs or a subsidy on a certain agricultural produce. These factors play a major role in making agriculture a risky business in comparison to for example industry and trading enterprises.

Examples of coping with risk are that a farmer household has its assets well diversified and have assets available to them which can, if needed, be quickly turned into liquidity (Wright et al. 1999). Another way of handling risk can be to adopting new technology or through the purchasing of more agricultural land. Assets can be defined as financial (e.g. money), physical (e.g. machines), human (e.g. know-how, education) and social (e.g. strength of network). Wright et al. (1999) state that borrowing funds can help a household with the management of their assets. Borrowing can, for example, lead to a higher level of income and diversification of the income streams of a household. It can as mentioned before, enable investments in technology that can reduce the overall risk of an enterprise. Wright et al. (1999) assert that microfinance can aid in improving human capital as it can lead to better self-esteem and empowerment for women. A study conducted in Bangladesh on shrimp farmers showed that a lack of adequate training regarding shrimp production influenced farming output negatively (Ahsan 2011). The output was influenced negatively because the farmers lacked sufficient knowledge on how to manage the risk that their business was exposed to. Velandia et al. (2009) found that farmers who were more educated tend to be more involved in risk management practices in so to safeguard their agricultural production. Velandia et al. (2009) continue to state that one strategy to reduce production risk in agriculture is to make use of diversification. By diversifying the farmer can be better equipped since the income for the farmer is more stable. According to Carter (1997), you can define diversification as twofold. You can define it as having different activities which are affected heterogeneously by the same event. Secondly, it can be defined as having activities that are conducted in separate environments and thus their events are not correlated with one another.

Gao et al. (2013) present a social network as an important asset as it has a noticeable productivity effect for a company. Networks can, for example, help to identify new areas of business for the company. In addition, social networks can also work as a tool to unlock previously unavailable knowledge. In that regard is social networks to be seen as an important part in the risk management work of a company. Ahsan (2011) concluded that cooperation between farmers was an important tool to manage production risks. Through the mutual cooperation, the farmers learned more efficient farming practices from one another and found new markets for their produce. Ahsan (2011) goes on to argue that the ability to save money

is a very good tool when farmers want to address the production risks associated with farming. Savings can, for example, address the risks associated with the surrounding politics that exist around the farmer. This is a conclusion that is further supported by the research made by Brune et al. (2016) in Malawi. The authors found that a farmer household that had the ability to save money started to increase its procurement of production inputs which resulted in higher crop yields. The higher yields entailed, in turn, increased profits for the farmer household.

Simply avoiding risk by not doing certain activities could be seen as another way of managing risk, however, this behavior can lead to a so-called "poverty trap" (Cervantes-Godoy et al. 2013). This means that by avoiding certain high risk but high rewarding activates the farmer will potentially reduce their ability to accumulate more assets over time. Certain negative events can lead to actions taken by the farmer household that in the future will affect their assets negatively. An example that Cervantes-Godoy et al. (2013) mention is that families can in worse economic times remove their children from school due to the high costs of education. However, as previous studies have shown, education has a positive effect on household risk management. Hence there exists evidence that displaying risk-minimizing behavior can, in the long run, make it more difficult for the farmer to get out of poverty. Ellis (2000) uses the same argument that if some of the household funds are diverted to pay for the children's education it can support the development of new sources of livelihood for the household. Thus by enabling the children to go to school, you improve the human capital of the household.

2.3 Education and its effect on agricultural productivity

According to Schultz (1988), there has been evidence presented that the level of schooling completed by a farmer has a positive effect on the overall agricultural productivity of his/her farm. Schultz (1988) mentions that education can help the farmer to increase his measurable inputs and it makes the farmer more open to information regarding technology. The farmer tends to also become keener to adopting new technology in his production. Since the farmer is educated he knows how to effectively utilize the discovered technology in his agricultural production. Education also helps the farmer to become more responsive to events in his surroundings which can affect his agricultural production. One such event can be price changes in both agricultural produce but also in inputs.

In agriculture, there are many decisions that have to be made with regards to how to distribute a limited amount of resources to different activities (Whelch 1970). Huffman (2001) writes that in developing countries there exists a positive relationship between the introduction of new technology in agriculture production and level of schooling that has been attained in a farmer's household. Feder et al. (1985) reached the conclusion that an improved human capital through higher attainment of education played an important role for the farmer becoming keener to introduce new technology in their production. Feder et al. (1985) use one study conducted in India as an example which implied a positive relationship between the level of schooling and adoption of grain types which produces higher yields. The authors also reach the same conclusions that Shultz (1988) do, that education has a positive effect on the allocation efficiency of resources for the farmer (Feder et al. 1985). An example that they take up to highlight this is a study made in the USA which showed that farmers who received a higher level of education were more responsive to changes in the price of corn. This influenced the farmer's decision on how much fertilizer they would use in their production.

A study conducted in Eastern Africa came to the conclusion that in cases where the level of literacy is low for the farmers, field schools are efficient to support increased productivity for farmers (Davis et al. 2012). The field schools are teaching farmers better agricultural production methods or are assisting them in adopting new technology in their production. They used Kenya as an example to display how productivity had increased. Through attending a field school the farmers had overall increased their level of productivity with 80%. Even if it was significantly lower, in Tanzania the participating farmers experienced a 23% increase in production. Income from agriculture also increased for the farmer households with a 50% increase in Tanzania, 23% in Kenya and in Uganda the income increased by 18%.

In Uganda, a study found that the level of schooling that a farmer has will have a positive effect on his/her farm's agricultural output (Appleton & Balihuta 1996). For example, a higher degree of completed schooling tended to result in higher crop yields. Education also had the effect that the farmer was more likely to make more use of external inputs (e.g. fertilizer). Another effect was that the farmer was more likely to utilize more capital, which in this case can be a hoe (scraper), in their agricultural activities. The researchers also present a plausible trickle-down effect in that if one farmer in a community is more educated he is teaching, through showing by example, other less educated farmers more productive agricultural practices.

2.4 Finance and its impact on farm growth

An article by Vos et al. (2007) stated that firms that are more involved in borrowing in order to access more financial capital were more likely to experience a larger rate of growth. This comparison was made with those firms who did not borrow financial capital. Beck et al. (2006) also reach this conclusion, that any small-medium enterprise (SME) which is limited by credit access displays a lower rate of growth in comparison with a larger enterprise. Beck et al. (2006) further recommend, in order to correct for eventual constraints of credit, is to make the institutions surrounding the SME more effective. An example that they mention is that countries that have stronger regulations regarding the property rights that each individual has, the less financially constrained the SMEs' are. According to a study conducted by Dong & Men (2014), there are multiple reasons for why raising capital is harder for smaller firms. For example, they mentioned the lack of information that exists between the borrowers and the banks that provide the loan which in turn leads to moral hazard. In order to combat the problem of lack of information is for the banks to establish relationships which span over a longer time period. Information about a client is built up over time which forms the base for decisions regarding credit lending.

Levine (1999, p.691) wrote that "financial systems serve one primary function: they facilitate the allocation of resources across space and time in an uncertain environment". The uncertainty and the accompanying transaction costs are dealt with by the financial intuitions through, for example, the use of contracts. Financial institutions can stimulate growth through the assembling of capital or through aiding advancements in technology. Levine (1999) uses a model to describe how the financial system stimulates growth:

In a gathering of previous research regarding the relationship between financial system and growth Levine (2005) reached the conclusion that firms in countries that have highly efficient financial systems show a comparatively higher rate of growth. The research also consistently supports the idea that the development of effective financial institutions aid the alleviation of financial constraints for firms. Levine (2005) finds that especially small-sized firms benefit relatively more by highly efficient & more prevalent financial institutions. It can, therefore, be said, according to previous research on financing, that more stable institutions in a country will affect the growth of firms in a positive manner.

In an agricultural context finance and the availability of financial resources can have an impact on the decision making of what crops are planted and on the scalability of the agricultural production (Conning & Udry 2007). It can also influence risky investments in, for example, a technology which can increase profits of the agricultural enterprise. A facilitator for financial institutions to reach out into the rural context in a developing economy is public policy. Examples of public policy can be clearer property rights, enforcement of said rights and ensuring that state law is upheld.

Figure 2: Financial Development and Economic Growth: Views and Agenda (Levine, 1999, p.691)

A study that was made on corn farmers in Minnesota reached the conclusion that a comparatively high level of availability of financial sources had a positive effect on the overall agricultural productivity of a farm (Butler & Cornaggia 2011). The authors displayed this by measuring the level of saved financial capital and analyzing the corn yields of different counties in Minnesota. They, in turn, found a positive correlation between larger amounts of saved financial capital and higher yields. In Pakistan, a study came to the same conclusion regarding livestock expansion (Mahmood et al. 2009). It was found that increased availability of sources of financial credit played a large role in helping with the expansion of the said business. In turn, the increase in expansion entailed a higher level of income for the livestock owner.

2.5 Theoretical summary

There is a discussion in the microfinance field today whether it is a good tool to use to in order to increase agricultural productivity. From the literature review, the conclusion is made that more research needs to be done in the microfinance field today in order to determine its effectiveness. Risk management has been found to have a positive impact on agriculture productivity and it is in turn affected by different assets (financial, human, physical & social). Education has been found in scientific literature to have a positive effect on agricultural productivity. Lastly, evidence has been produced which supports that improved access to multiple sources of financial capital has a positive impact on growth for small-medium enterprises but also more specifically on agricultural enterprises.

3 Methodology

In this chapter, the methods that have been used during the research process will be presented. It includes argumentations and elaborations on why the selected methods are relevant when investigating the suitability of using microfinance in Ugandan coffee farming.

3.1 Approach and perspective

The choice of method suitable to conduct this research is mainly based on Hulme's (2000) recommendations regarding analyzing the impact of microfinance. He suggests that when you want to improve already existing code of conduct in microfinance it is more suitable to use a subjective approach.

Paradigm deals with how we view different phenomenon and how research should be conducted when trying to understand said phenomenon (Given 2008). Usually one divides this view into two parts: epistemology and ontology. Regarding epistemology this thesis is placing itself in an interpretive paradigm. From an ontological standpoint the thesis is placing itself in a constructionist paradigm. Following below are elaborations which explains for why the thesis is positioning itself the way it does in regards to paradigm.

Epistemology is focused on how we perceive knowledge and there are two major viewpoints when it comes to this which is positivism and interpretive (Bryman & Bell 2013). Positivism regards knowledge as something definite and that individuals own subjective opinion on a matter is not of interest, in other words, a positivist researcher can be said to aim for objectivity. When the researcher is having an interpretive standpoint he/she is more interested in finding every individual's own subjective way of reasoning. The aim of this thesis is to investigate and analyze every participating Ugandan coffee farmer own subjective perception of microfinance suitability in agriculture. The researcher will identify the underlying factors or themes for each farmer's reasoning. From these factors or themes relevant theory which explains the coffee farmer's behavior will be generated. Therefore the researcher is placing himself in the interpretive paradigm when conducting research.

Ontology is dealing with for example how social norms are being influenced (Bryman & Bell 2013). There are two different views regarding how they are being influenced. Objectivism states that norms are not dependent on social actors for their existence. In other words, norms are influencing the social actors how they should act in a certain situation and not the other way around. On the opposite side, we find constructionism which instead states that norms are constructed by the individuals who are affected or surrounded by them. As this researcher is aiming at a more in-depth analysis of the farmers' own subjective opinions regarding what impact microfinance have had on their agriculture he is placing himself in the constructionist paradigm. In short, in this thesis collective meaning and norms are created from every participating individual's subjective opinions.

Against the background that the thesis is located in an interpretive and a constructionist paradigm this thesis will use a qualitative approach to research. A qualitative approach means that the surrounding context will be of interest and the subjectivity of the individuals studied will be in focus (Bryman & Bell 2013). Since the farmers might have different experiences that separate them from each other a quantitative research has the risk of not being able to pick this up since it is more objectivistic in its research approach. Eisenhardt et al. (2016,

p.1113) argue that inductive studies can be very useful when addressing so-called “grand challenges”. An example of this is how to address poverty and other challenges that are usually regarded as being complicated in that there exists not a sole solution to them. Since poverty is considered by Eisenhardt et al. (2016) to be such a problem, the author of this thesis has determined that an inductive approach is the most relevant. The most relevant approach when studying the impact of microfinance on smaller-size Ugandan coffee farmers. The main argument for using an inductive approach when doing studies about these issues is its focus on the generation of new theory and its ability to identify and explain processes. In the words of Eisenhardt et al. (2016, p.1113): “They ([inductive methods]) excel in situations for which there is limited theory and on problems without clear answers”. Inductive methods usually state the research questions without including already existing theory. An inductive stance implicates that theory will be generated from studying an empirical phenomenon (Bryman & Bell 2013).

The empirical phenomenon will be, in this case, the subjective views of the Ugandan coffee farmers regarding the suitability of microfinance to finance their production. After that, a new theory will be generated in order to explain the behavior of the Ugandan coffee farmers. This will be the order in which this research process will be conducted as it allows for a more open research process since the researcher is not influenced and to an extent, not constrained by previous theory. However, this study will collect some theories on the microfinance field beforehand as the researcher does not possess any previous extensive knowledge on the subject before this thesis (Bryman & Bell 2013). How this was conducted will be discussed more in detail in the literature review section of this chapter.

Eisenhardt et al. (2016) presented a study that had been conducted in the microfinance field that used an inductive case study approach. Eisenhardt et al. (2016) state that by using said approach the authors of that study could identify processes that would probably not been discovered if a deductive approach had been used. So, it can then be argued that that inductive approach also has the advantage to a deductive one when analyzing subjective perceptions of a phenomenon. In accordance with using a qualitative approach, the data analysis will be done through the use of a grounded theory inspired approach (Bryman & Bell 2013). This means that a new theory will be built from the empirical findings that this thesis will discover. How this was done in practice will be further elaborated on in the data analysis section of this chapter.

When conducting research it is of importance to try to maintain methodological fit. This means that the research is consistent in its choice of, for example, data collection and data analysis (Edmonson & McManus 2007). While the microfinance area as a whole has been very thoroughly studied over the years there are still areas that are not fully explored and researched. Weber & Musshoff’s (2013) study on flex loan in agriculture was, according to them, a new take on microfinance research. So while there is already a lot of research conducted in the field there seem to be areas where existing theory can be revised (Bryman & Bell 2013). Thus the flexibility of qualitative research can open up for new insights in this scientific field. One should, however, be conscious that there is a risk of producing results that have already been discovered and presented (Edmonson & McManus 2007). Still, as mentioned before, there are potentially new conclusions to be drawn in this research area which has not yet been fully explored. Hence, a qualitative approach has been deemed as the most suitable research approach to conduct this research.

3.2 Case study

According to Yin (2017), the most important determinant to select which strategy to use when conducting research is what research question/s is/are utilized as a foundation for the conducted research. As this thesis makes use of a "how" research question a case study approach is deemed as being the most appropriate strategy to use when studying this phenomenon. Case studies deal with theory progression by finding connections between findings and existing theory, for example, revising or contrasting existing theory in the research area (Mills et al. 2010). Eisenhardt (1989) also shares this view in that case studies can help to "unfreeze" existing theory. Case studies have the strength of being very strongly anchored empirically as a large part of case studies is to produce a theory from empirical results. Some criticism has been raised against case studies that it is not transferable to a broader population and is therefore not suitable to advance a research area (Flyvbjerg 2006). However, as Flyvbjerg (2006) points out, generalization to a broader population doesn't necessarily help to advance the research. Thus, a case study can work as a tool of revising existing theory and help the progression of scientific research. As mentioned previously, the researcher can take certain measures in order to address the issue of lacking generalizability (Gioia et al. 2013). An example is to propose suggestions for further research in the particular theoretical area that the study is positioned in.

When conducting a case study it is of importance to already have a stated research question before starting to conduct research (Eisenhardt et al. 1989). As case studies usually involve a lot of data a pre-determined research question can help to identify suitable sampling and data collection methods. The researcher can also identify and collect already developed theories in an area as they serve as useful tools when determining which approach and measurements are appropriate when studying a particular research area. This allows for more triangulated research as the proposed theories that might emerge from research is grounded in that particular research area. Triangulation means, in short, that the researcher is certifying the importance of his stated conclusions (Bryman & Bell 2013). This can be achieved through, for example, using different sources of empirical information or different method approaches. However, the researcher must take caution as not to become too clouded in previous research as it might limit his own personal interpretation of a subject (Eisenhardt et al. 1989). As mentioned previously a literature review will be done in which microfinance research which has been done before this study will be identified. Using the pre-research review as a foundation, the research question for this thesis will be determined and its relevance verified.

When conducting sampling in a case, so-called, theoretical sampling can be useful (Eisenhardt et al. 1989). This means that you determine your sample based on already existing theory in a certain field. It is done since the researcher perhaps aims to further develop/improve on existing theory or fill theoretical gaps in a specific field. During the data collection, Eisenhardt (1989) also recommend to continuously analyze the collected data during the whole process in order to, for example, find new insights that might need further data collection. Changing or adding/discarding questions to further develop theory is also something that can be done during the data collection process. This allows the researcher to maintain adaptability to new topics that can arise during the data collection.

When the data is to be analyzed in case research Eisenhardt (1989) recommends to first treat every studied case as its own entity before making comparisons. This is done in order to become confident of the information that each case has and then more insights can be brought in when case comparisons are being made. Thus it can be said that this research makes use of a multiple-case study approach where the context of every coffee farmer is of interest

(Bryman & Bell 2013). When doing comparisons the researcher can take the different cases and take note of what brings them together and what distinguishes them from one another (Eisenhardt 1989). This means that the cases are categorized according to the different properties that they possess.

Further on in the process, the researcher is using the analysis of the case comparisons to build up a new meaning to existing theory by comparing data findings with existing theory in the field (Eisenhardt 1989). By doing so you can see if a previous theory is explaining the collected data or not and what implications for it will have for the generated theory. This also helps to create validity and generalizability for the results that are being presented. An important step in creating validity for research is when it helps to explain relationships between different factors. Every individual participating coffee farmer will be regarded as a unique case with its own settings. After the collection of raw data has finished, comparisons will be made between the cases to identify similarities/differences among them. This process will be further elaborated on in the data analysis section of this chapter.

3.3 Literature review

When conducting research a good tool to utilize is to review what scientific literature which already exists in the intended area of research (Bryman & Bell 2013). One reason for this is that it can help the researcher when analyzing the raw data by helping with explaining a certain phenomenon. It can also help when you formulate your research method by showing what methods previous research has done on the subject. Lastly, Bryman & Bell (2013) recommends doing a literature review since it is standard practice to do so in the business administration field. One argument for that can be that it makes it easier for the reader to understand the scientific process and emerging theory from the said scientific process if previous theories is presented beforehand. The pre-existing literature/theory done on microfinance in general, and its use in agriculture in particular, will be collected using primarily internet sources and books. Google scholar will be the main literature search engine. Search words will primarily be “Microfinance”, “Agriculture”, Qualitative, “Sustainability”, “Finance” “Risk management” “Inductive” and lastly “Education”. They will be used either individually or in a combination with each other in order to find different scientific articles that can be of relevance for this particular research.

When determining whether to conduct a systematic or narrative literature review the researcher has decided that a narrative approach is more suitable. This is due to the fact that it isn’t known beforehand what theories will be relevant (Bryman & Bell 2013). Theories relevant to explain why the Ugandan coffee farmers reason as they do regarding microfinance and its role in their agriculture production. By doing a narrative literature review flexibility can be maintained (Bryman & Bell 2013). As this study is utilizing a grounded theory and inductive approach to research this subject it is important that the literature review of the microfinance field make room for flexibility. To clarify: as the existing literature/theory on the studied subject constantly is revised during this thesis the maintenance of flexibility is of crucial importance for its success. It enables the researcher to not set up pre-determined frames for what theory is relevant or not. In short, in regard to overall methodological fit, as this study will be using a qualitative method approach, a narrative literature review has been deemed as the most appropriate method to use (Edmonson & McManus 2007).

3.4 Sampling of respondents

In a literature review by Hermes & Lesink (2011), regarding the state of microfinance research, the issue is raised that a non-random sampling may only target successful loan receivers. Thus the unsuccessful have been left out of the sample giving a biased conclusion that microfinance is a good tool to help eradicate poverty. However, at the same time, there has been a concern that random sampling from a single case doesn't work for another context. However, proponents argue that by using random sampling you can correct the issue of biases in a study. The conclusion that Hermes & Lesink (2011) draw from the different studies is that random and non-random sampling are complementing each other and both are of equal value when studying the effect of microfinance.

Eisenhardt (1989) discourages the use of randomized sampling when conducting case studies and instead recommends the researcher to actively determine the sampling. The reason for this, she argues, is that it allows the discovery of polarized cases which allows for more comparisons. Hence the sampling of the data in this thesis will be purposive in that, the coffee farmers have been selected from certain criteria that are perceived by the researcher to be of interest for the study (Lewis-Beck et al. 2004). The farmers selected for the study have used microfinance services before for some investment in agriculture. The farmers selected will all be involved in coffee production. In an attempt to get a personal spread among the respondents the farmers selected shall have a difference in age and education. The goal of this is to make the cases somewhat distinct from one another and allow for comparisons between them regarding for example attitudes. Thus the unit of analysis for the thesis is Ugandan coffee farmers that have at some point used microfinance.

The researcher will get in contact with the selected farmers with the help of Makerere University Business School in Kampala, Uganda which has contact with the Sacco "Buikwe Riis Coffee Farmers". The cooperative will select the coffee farmers according to the pre-determined sampling criteria that the researcher has set up.

Eisenhardt (1989) recommends that a good case study has between 4 to 10 individual cases since this will allow for good theoretical generation or building theory from the empirical evidence provided. Fewer or more than that usually lead to either insufficient empirical support for theory generation or, which is the case of more than 10 cases, data handling becomes too complex. Hence six different coffee farmers will be selected and each of them will be deemed as an individual case. Besides the individual interviews, a focus group discussion will be conducted with three farmers. The group discussion will be regarded as a single case making the total amount of cases in this study, seven. The size of the farms selected should not exceed more than 2,76 hectares which is defined by FAO (2012) as the maximum size of a small size farm in Uganda. When conducting non-random sampling, a big issue is replicability which is how well you can make the same research process but in another context (Bryman & Bell 2013). Another issue is that the author can have a bias toward the subject and what they define as, for example, small scale farmers. However, by using statistics from FAO (2012) which clearly defines the maximum size of a small size farm in Uganda, this problem can be said to have been addressed to some degree.

3.5 Data collection

Since the research question are of a qualitative nature, a semi-structured interview has been deemed as being a suitable choice due to its focus on the interviewee and their subjective views (Bryman & Bell 2013). Bryman & Bell (2013) also recommend that semi-structured interviews are to be used when conducting a study that involves different cases. As an example, it allows for comparisons between the cases. It is also recommendable to do this when doing a qualitative approach as semi-structured interviewing is more focused on getting the subjective opinion of the respondent. This is in comparison with structured interviewing which is more quantitatively orientated. Structured interviewing discourages the researcher to stray from the pre-determined research questions as it can endanger the overall reliability of the research process. As this research is utilizing a case study approach the interviewer needs to have some sort of structure when doing the interviews. This is done in order to avoid making the data collected from each case not comparable to the other cases. This research can also be deemed as being quite narrow in that it is investigating Ugandan coffee farmer's perception of microfinance in their production. So, in order to maintain a certain degree of focus semi-structured interviews have been deemed as being more relevant than unstructured interviewing. Gioia et al. (2013) state that when using a grounded theory approach to data analysis semi-structured interviewing is the most suitable data collection method to use. The reason for this is that you are able to find data that you otherwise would not discover. Hence, in accordance with the stated aim and the methodological approach of this research semi-structured interviewing has been decided as the most appropriate data collection method.

Semi-structured interviewing is enabling the researcher to maintain the flexibility of unstructured interviewing as the interviewee is allowed to emphasize different factors, factors that they feel like the most important (Bryman & Bell 2013). Thus, the farmers are allowed to specifically point out what in the microfinance services provided that led them to perceive the services as they did. At the same time, since the focus is on how the coffee farmers perceive the microfinance services, questions that relate to that will be asked and therefore some degree of generalizability will be maintained. Thus, the interviewer follows a pre-determined interview schedule (Appendix 1). However, as opposed to structured interviewing, the respondent is allowed to produce their own detailed and subjective answers to the questions asked.

Bryman & Bell (2013) recommend that the researcher is confident that the intended interview questions will answer the stated research questions when preparing an interview in a qualitative study. It is also important that the research questions are not too narrow in their design and result in that the interviewees cannot answer the questions in a personal way. Also, as Bryman & Bell (2013) argue, grounded theory in its foundation is built on the presumption that in order to avoid predispositions toward a subject the researcher should not have studied much previous theory on the subject. Bryman & Bell (2013) state that the researcher also need to be careful not to ask inferring questions and recommends to use a language that is understandable for the respondent.

The questions in this research will be reviewed with a Ugandan student before the interviews with the coffee farmers are conducted in order to avoid questions that are confusing to the coffee farmers. In order to connect the collected data to a context, questions regarding the respondents' personal properties such as age, gender & agricultural production will be asked. Also, as previously stated, a narrative literature review on the state of microfinance research today will be conducted before the interviews are done. This, in order to make the researcher

feel more confident since he/she possesses the necessary knowledge to ask relevant questions in regards to pre-existing theory and to a degree also understands the farmers' reasoning.

It is important that the researcher maintains flexibility during the whole interview process (Bryman & Bell 2013). This means, for example, that the researcher is not following the order of the questions too rigorously. It can also be expressed through the interviewer's ability to catch emergent categories that lay the groundwork for a theoretical generation.

Trost (1997) states that when conducting semi-structured interviews the interviewer is recommended to have few questions that are quite open for subjective interpretation. By doing so, the interviewee is able to answer more freely. This, in turn, will help to generate empirical data that is more thorough and in depth. Gioia et al. (2013) write that a researcher should avoid to asking leading questions and that the interview questions are in some way connected to the overarching research question of the study. Thus the author of this thesis will try to have as few questions as possible but shall be considered sufficient in number to answer the pre-determined research question. The questions will be formulated so they are quite open-ended, using "why?" and "how?" questions. By having such open-ended questions the researcher is encouraging the interviewee to be more descriptive in their answers and thus is providing more rich and unique data (Kvale & Brinkman 2009). The questions that are used during the interviews will be included as an appendix (Appendix 1) in order to strengthen the replicability of the thesis in another milieu (context) (Bryman & Bell 2013).

Apart from the six individual interviews, a group discussion will be conducted with three other coffee farmers. The questions that will be asked to them will be the same as in the individual interviews. The reason for utilizing multiple data collection methods is because it will strengthen the triangulation of the research (Bryman & Bell 2013). Stronger triangulation is achieved since different methods have been used in order to determine the importance of the empirical data. In focus group situations there often tend to be more argumentations between the respondents which can allow for more elaborative answers from the respondents. The farmers might also add on to his/her previous statements in the discussions when they hear how other the other two participating farmers perceive how microfinance has affected them. If the main aim of the research is to discover the personal reasoning's of an individual then Bryman & Bell (2013) recommend the use of discussion groups that are smaller in size. Thus, in accordance with the aim of this thesis, it has been deemed suitable by the researcher to only include three farmers to be a part of the focus group interview.

An interpreter will be used when the interviews are conducted. It is important to mention why using an interpreter has been considered suitable in order to strengthen the overall rigor of the study (Squires 2008). The reason to make use of an interpreter, in this case, is that some of the farmers that will be interviewed are unable to undertake a full interview in English. Squires (2008) goes on to recommend the researcher to explain in detail on what role the translator has played during the progression of the research. Squires (2008) further states that one method to strengthen the research's overall trustworthiness is if the researcher is using the translator to verify the final transcription of an interview. By having a translator that knows a lot about the subject already such as a fellow researcher you can increase the credibility of the translation. The data collection of this thesis will be done jointly with a Ugandan university student who has undertaken a course in microfinance. During the transcription, the Ugandan student will participate by aiding and verifying the finished transcription of the interviews. By including the translator throughout the research process it can be stated that the scientific rigor of the thesis will be strengthened.

The interviews will be recorded using a mobile phone and transcribed for later analysis. By recording the interviews the researcher can go back and analyze certain points of the interview and find relevant data that has previously been overlooked (Bryman & Bell 2013). In short, recording gives the researcher the ability to more thoroughly analyze the data compared with only taking notes during the interviews. One drawback with recording the interviews is that the respondent becomes more reserved since everything that he/she says will be noted. However, since the farmers in the six individual interviews will sign a GDPR document the farmers know that all that they say they can withdraw at any time and this can give some degree of comfort for the participating farmers. It should be noted that the farmers in the group discussion will not sign a GDPR document. However, as they will remain anonymous this issue can be addressed since no personal data about them will be presented in this thesis.

3.6 Data analysis

When analyzing qualitative data one aspect that is considerably challenging is how to handle and understand the large amount of empirical information that has been collected (Bryman & Bell 2013).

The collected empirical data in this thesis will be analyzed using a grounded theory inspired approach (Bryman & Bell 2013). In grounded theory, there are three different levels of coding which will help with the data analysis. First, the data will be coded by categorizing factors relatable to how the coffee farmers think microfinance services suit their production. When coding data it is important that the researcher asks himself for example what the implications of the collected information have for the research. Bryman & Bell (2013) recommend very early in the research process to start coding the data and identifying patterns and relationships which will help with the theoretical generation. Concept development is when the collected data from each individual case (the coffee farmers) is taken apart and the researcher is investigating the different parts of the data separately. Examples of this can be a citation or a statement done during the interview that the researcher deems to be of importance to explain a phenomenon. Bryman & Bell (2013, p.581) recommend the researcher to do a so-called "concept card". It can be presented visually like a table where all the respondents are included and their respective statements or opinions regarding a subject will be included. In this thesis concepts will be defined according to certain keywords that the researcher is feeling that the respondents is emphasizing during the interviews and that is relevant to answer the research question of this thesis.

Second, after developing the concepts they will be grouped together depending on their common or differing characteristics creating separate categories (concept groups). Gioia et al. (2013) have divided the level of data analysis in grounded theory into three different levels. The first level of analysis tends to focus on generating as many concepts as possible in regards to the information that has been received from the respondents. The second level of data analysis deals with narrowing down that data into categories by tying the concepts together through the discovery of similar or differing patterns, relationships and causes (Bryman & Bell 2013; Gioia et al. 2013). In this thesis the relationships and differing patterns will be identified through using previous theory on the subject but also relationships that the researcher feel is existing between the different concepts. This will help to explain the data and this part is an important step in the upcoming theoretical generation. This process also goes under the name of axial coding (Wicks 2010). When reaching the point where the

researcher comes to the conclusion that more data would not be useful for the concept generation then the categories are further narrowed into something called “aggregate dimensions” (Gioia et al. 2013, p.20).

Third, at the end the main categories that most accurately explain the behavior of the Ugandan coffee farmers will be identified (Bryman & Bell (2013). When determining the importance of the data the reoccurrence of the same type of observation in many of the cases is a good way of determining its level of importance. The categories will be tied together by their relationship with one another which will create an overarching theory. This theory will help to explain a phenomenon and lead to conclusions and subsequently the generation of a substantial theory. The substantial theory is confined to a specific empirical situation but it can become more formal through using the same research approach in different empirical contexts. After the overarching theory has been generated its hypotheses and arguments will be tested and supported by existing literature done in the scientific field in order for it to become a substantial theory.

When using a grounded theory approach to research it is important that the research question/s is phrased in an appropriate manner (Gioia et al. 2013). Gioia et al. (2013) recommend using “How” research questions in order to more efficiently capture concepts and identifying the relationship that exists between them. As this research makes use of “How” research question the researcher has found a further argument in favor of using a grounded theory inspired approach when analyzing the empirical data of this thesis.

Gioia et al. (2013) recommend that a researcher presents the whole grounded theory process visually in order to present how he has generated the overarching theory. By doing so Gioia et al. (2013) argue that the researcher is aiming for scientific rigor. It is easy for the reader to comprehend the different steps taken by the researcher during the research process and so the process is more transparent. Gioia et al. (2013) suggest this model as a means of visualizing the process from raw data to theory generation using a previous study as an example:

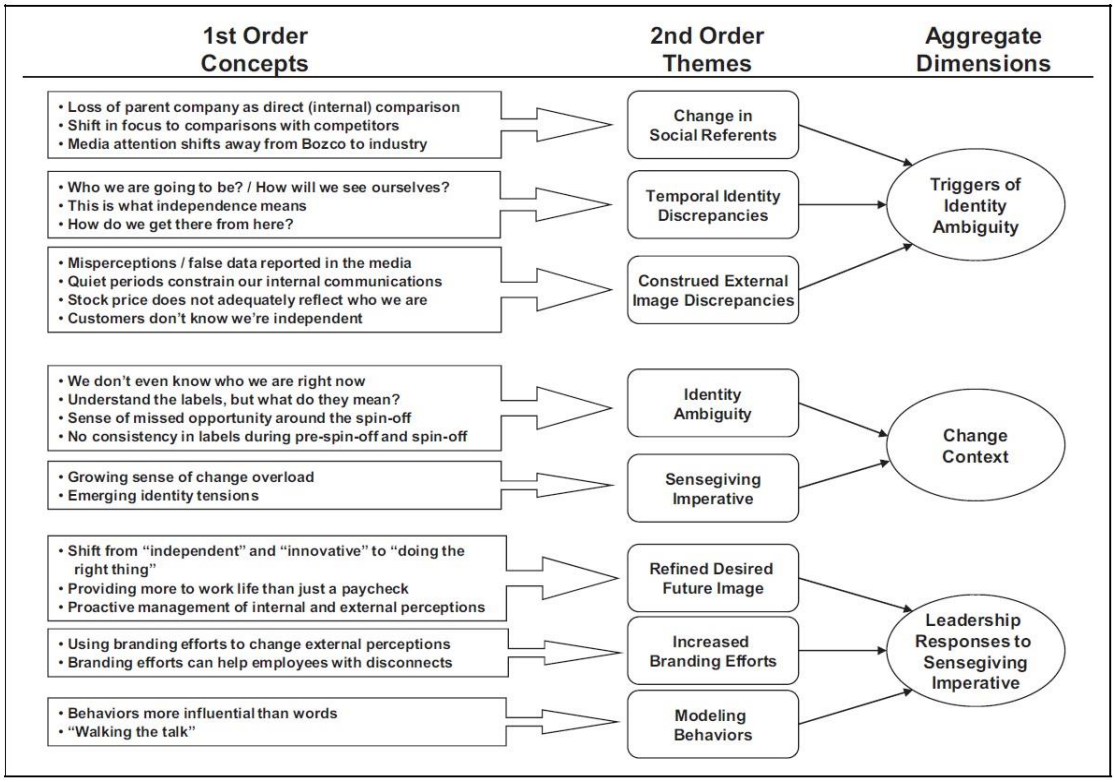

Figure 3: Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology (Gioia et al. 2013, p.21)

This model will be remade in accordance with the empirical findings of this study and shall be displayed in the analysis and discussion chapter of this thesis.

An aspect that has to be taken into account when conducting a grounded-theory analysis is that it is time-consuming and the question whether a novel theory is actually produced (Bryman & Bell 2013). It is also hard to determine what really makes a concept and what determines a category. However, grounded theory has been considered as being able to generate new perspectives on an already established theoretical area which microfinance theory can be regarded as being (Bryman & Bell 2013; Weber & Mushoff 2013). It has also been credited for being effective in tying theory to practice in that is usually allows respondents to share their opinion of a subject and identify complex situations (Bryman & Bell 2013). Thus, even though a grounded theory approach has its limitations, overall it still can be considered a highly relevant approach when conducting research in the microfinance field.

Bryman & Bell (2013) present this general model for how the process of grounded theory can look like from the development of research questions to formal theory. It should be noted that due to logistical reasons it will not be possible to conduct a second round of data collection in this thesis. Thus theoretical sampling, second data collection, and saturation of identified categories will not be steps used in this thesis.

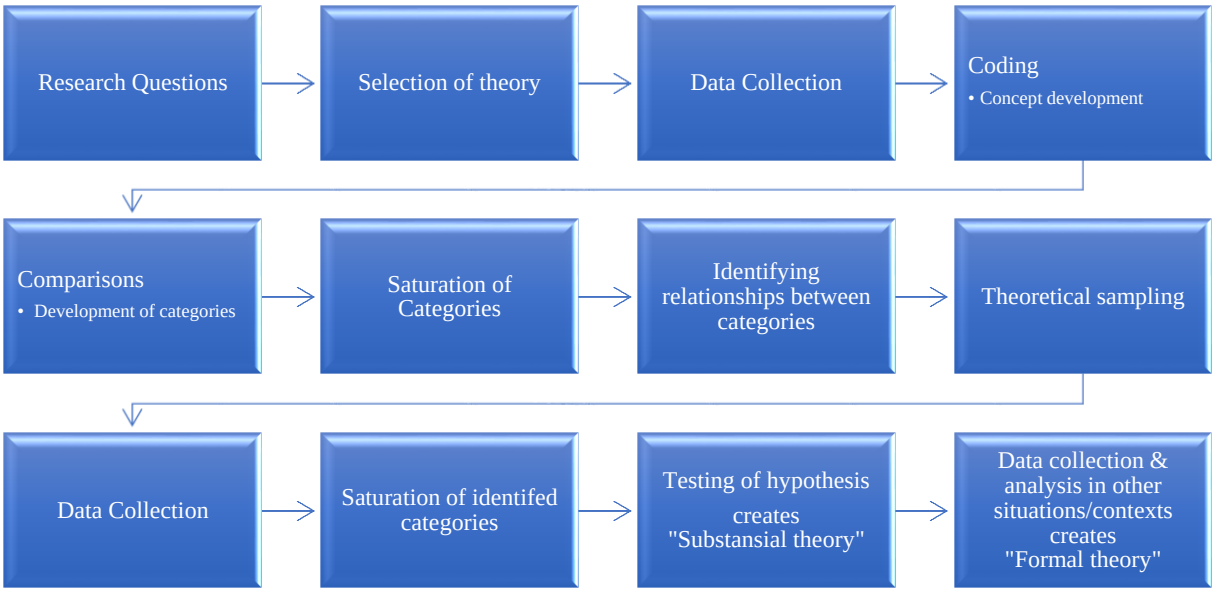

Figure 4: Processes and results in grounded theory (Bryman & Bell, 2013, p.583)

When generating theory the level of scientific rigor undertaken during the course of the research must be addressed (Eisenhardt et al. 2016). This has to be done in order to strengthen the quality of the conducted research as it shows that the researcher knows what he is doing (Bryman & Bell 2013). It also goes to show that the researcher is aware of what consequences, for example, the choice of method has on the research. It is important that the developed concepts accurately describe a phenomenon and that the researcher can use relevant arguments in defense of the developed concepts (Eisenhardt et al. 2016). Thus, as mentioned previously, in order to transform the overarching theory to a substantial theory previous relevant scientific theories will be used to support the claims made by the generated

overarching theory. It is important as well to develop and present, as mentioned before, proposals for further research (Eisenhardt et al. 2016). The researcher should also explain for what impact the properties of e.g. the used research method has had on the theoretical generation. This will be further elaborated on in the discussion sub-chapter of this thesis.

3.7 Ethical considerations

During the whole scientific process, and especially during the data collection, it is important that the researcher is maintaining a high degree of ethical conduct (Bryman & Bell 2013). It is important that the researcher is considering, for example, if the research and its findings will cause harm to anyone. The participating farmers will be asked if they want to be anonymous in order to protect them and allow them to answer more freely. However, as the context of the farmer is of interest it is also of importance that the context is not described in too much detail in order to not to compromise them. The farmers will be asked for their consent if they want to be part of the study and will have explained to them the purpose of the study and why they have been sampled in order to help them decide on participation. In retrospect it has to be noted that all participating coffee farmers have consented to have their real names published in this thesis.

After the raw data has been collected it is important that the researcher is handling the data in a correct manner. Bryman & Bell (2013), recommend that the researcher before the raw data is collected has a clear understanding of what boundaries exist in regards to data handling. This is especially important as of the writing of this thesis new European legislation (GDPR) has been introduced regarding the handling of personal information. Hence in order to address this new legislation, some of the participants in this study will have to sign a document which gives them consent at any time withdraw personal information. The participants that will sign the document are those whose personal properties (for example age) will be presented. The researcher will have one copy and the respondents will have one copy of this signed document. A scanned copy of this agreement will be added as an appendix (Appendix 3).

3.8 Trustworthiness and authenticity

Bryman & Bell (2013) state that in order for qualitative research to strengthen its trustworthiness and authenticity it is important to consider certain factors.

Factors related to trustworthiness deal with how accurately the presented results of the research are able to explain a certain phenomenon (Bryman & Bell 2013, p.403). One way to increase the trustworthiness of this thesis is to conduct a “respondent validation” which means allowing the coffee farmers look at the transcribed material and determine whether it accurately describes their social reality. However, due to logistical purposes, this will not be done and instead, this issue will be dealt with through recording all the interviews and transcribing the interviews together with the translator (the Ugandan student) present.

Secondly, the researcher must examine and try to ensure that the results that are presented can be transferred to another context (Bryman & Bell 2013, p.404). A way of addressing this is to use “thick description” which means that the researcher is trying to describe the empirical contexts of the respondents as much as possible. By describing the context in detail it makes it

easier to determine if the generated results can be applied to another context. Thus, the empirical contexts of the coffee farmers will be presented as much detail as possible without as mentioned before cause them any personal harm.

It is also important that the researcher, during the research process, is aware of the social/cultural contexts that the respondents in this thesis/study are in (Bryman & Bell 2013). In this case, cultural context can be defined as a "broad background of beliefs and practices that guide the behaviors of both the researcher and research participants" (Morgan & Guevara 2012, p.181). In order to achieve a thorough data analysis, it is, again, important for the researcher to be aware of the cultural contexts that exist around the collected emprical data. This thesis data collection is done in collaboration with a Ugandan student. This student can be said to possess good knowledge of the social contexts that the Ugandan coffee farmers are in and thus the issue of context can be addressed. Before, during, and after the interviews with the coffee farmers the Ugandan student will be present and aid with the interpretation of the context. Before the interview, the researcher and the Ugandan student will discuss eventual contextual differences between Sweden and Uganda. During the transcription of the collected interview data, the Ugandan student will be part of the interpretation of the information in regards to the contextual information that will arise. This is done in order to strengthen the trustworthiness of the presented results (Bryman & Bell 2013). Also, the researcher will have the help of two local supervisors at Makerere University Business School which will, during the research process, review the conclusions of the thesis and provide contextual background to the results. Through the aid of the Ugandan student and supervisors, a more detailed and more accurate presentation of the empirical context of the coffee farmers will emerge. This, in turn, will help the readers of this thesis to determine how the results of the thesis can be used in a different context. If the presented theory can be tested in another context then it can be transformed from substantial to more formal theory (Bryman & Bell 2013). Again, this means that the generated theory will be able to explain a phenomenon in different contextual environments thus increasing the theory's transferability.

During the research process, it is important that the researcher is reflexive of the choices that have been done in the study (Bryman & Bell 2013). It means that the researcher is conscious of the implications that certain choices, such as the methodological approach, have on the overall result and outcomes of the research. Using these aforementioned arguments, a quantitative approach has been deemed as not appropriate in accordance with the purpose and aim of this thesis. The aim to investigate the subjective views of the Ugandan coffee farmers using microfinance in their coffee production. Still, again, it is important to be reflexive of the choices that have been made in this study and what implications they have for the results (Bryman & Bell 2013). This is done in order to improve the transparency of the research process and in turn increase the overall quality of the conducted research. A qualitative approach might lead to that it could be hard to repeat a study due to the less rigorous focus on structure and transparency of the research process. This can lead to decreasing validity for the research in that it is hard to transfer the results to another context and the description of a phenomenon is correct. The researcher can combat this problem through respondent validation. This means that the interviewee after the interview is handed the transcription of the interview and asked to verify that the conclusions drawn from the interview are correct. Again there has to be noted that this research will not conduct a respondent validation of the transcriptions. Nevertheless, since all the conducted interviews will be recorded and transcribed together with the translator (Ugandan Student) a validation of the respondents' answers will to a degree be met.

There have been some questions raised against the common notion that purely inductive research isn't transferable to a wider populace. Gioia et al. (2013) point out that if the researcher is able, from the individual cases, to create concepts that have the ability to be applied in a different context then the research is transferable and in turn repeatable. The authors recommend that the researcher in their research paper include suggestions for further research in order to increase the transferability of the emergent concepts to other contexts. Hence at the end of this thesis suggestions for further research will be included as a mean to increase the thesis transferability.

Another action the researcher can take in order to ensure a high level of trustworthiness is to let someone such as in this case the thesis supervisors examine, for example, the choice of method and its suitability when examining the selected subject (Bryman & Bell 2013). In this thesis, the researcher has continuously been in contact with the three supervisors to ask for their opinions regarding for example choice of method and relevance when regarding the aims of the study. Also, at around half time and at the end of the research period for this thesis seminars will be held were the research progress will be presented and feedback on the work will be received. Lastly, the researcher can ensure the readers of the thesis that he/she has done everything in their power to ensure objectivity and not their own values influence the generated results. Here, the supervisors of this thesis can act as a sort of guarantee as they can determine if the presented conclusions are well correlated with the empirical and theoretical standpoints presented.

Factors related to authenticity deal more with how accurately the results of a conducted research describe the reality and what implications the results will have (Bryman & Bell 2013). When addressing this it is important for the researcher to give a so-called "fair description". This means that the personal views of the coffee farmers are being presented in an accurate manner. Other factors that have to be considered is if the presented results can help for example the MFIs' to reformulate their practices to better fit coffee farmers production properties. You also have to consider if the generated result can help the coffee farmers to improve their overall situation.

When considering strengthening the rigor of the study it is important to be very clear when presenting the evidence which supports the generated theory and concepts (Eisenhardt et al. 2016). In other words, making it easy for the reader to understand how the researcher has reached the conclusions that are being presented. Eisenhardt et al. (2016) state as well that it is important that in order for an inductive study to achieve a strong level of rigor, the research has to produce new theoretical standpoints. The research also has to make valuable additions to already existing ones.

4 Empirical data

In this chapter, the empirical findings that have been discovered from the data collection will be introduced. First, a more general overview of Uganda, its agriculture and its MFI types will be presented in order for the reader to get a broader understanding of the context of this research. Secondly, information about the nature of producing coffee beans and a brief introduction to the "Buikwe Riis Coffee Farmers" will be displayed as a sub-chapter. Finally, the findings from the conducted interviews will be presented and elaborated on. The elaborations will, in turn, lay the foundation for the data analysis, data discussion and conclusions done in the later chapters of this thesis.

4.1 Overview of Uganda, its agriculture and its MFIs

Here follows a short description of Uganda as a country and more general information about its agriculture. Uganda is a landlocked country located in Eastern Africa, it has a population of approximately 40 million people as of 2018 and its capital is Kampala (www, CIA 2019). The official language is English, however, it is home to many other local languages such as Luganda. It's a presidential republic and it achieved independence from the United Kingdom in 1962.

Agriculture makes up a large share of Uganda's economy and its soils are considered to be very suitable for agriculture with favorable rainfall throughout the year (www, CIA 2019). Some of the main agricultural products that are destined for export are coffee, cotton and different types of grains. According to the World Bank (2018), the most common tool for Ugandan farmers to use in their production as of 2018 is a hoe (scraper). Around 10% are using some sort of animal power such as an ox in their production. Lastly, approximately 1% of the Ugandan farmers make use of tractors in their production.

In Uganda today there exist 4 different categories of MFIs (AMFIU 2015). There are traditional banks that engage in microfinance services, secondly, there are credit institutions and thirdly there are MDIs (micro deposit-taking instutions). Lastly, there is the fourth group which includes Saccos (Saving & Credit cooperatives) NGOs and other informal lending groups. They are defined according to the size of the capital that they have with traditional banks having the highest capital requirement and the informal lending groups having the lowest capital requirement. The traditional banks tend to have more regulations imposed on them in comparison with the other groups with the fourth group having the least amount of regulations imposed on them.

4.2 Overview of coffee production in Uganda

For a coffee tree, it usually takes around 3-4 years from its planting to have its first fruits and at the age of five, it usually attains full yield potential (www, NCA 2019a; www, NCA 2019b). Harvest usually occurs one time per year with a chance in some countries to have one more, albeit smaller, harvest (www, NCA 2019a). In Uganda, it is often common with two flowerings (harvests) per year for a coffee tree (www, Uganda Coffee Federation 2019). If a coffee tree is properly handled it can increase its productive yield over the years or at least maintain the same constant yield. The tree's productivity starts decreasing when it's at around

20 years of age (www, NCA 2019b; www, FAO 2019). One measure that can be done in order to maintain productivity until it reaches 20 years is to regularly prune the coffee tree (www, FAO 2019). If you are not pruning the tree adding fertilizer, for example, will only result in the thickening of the tree branches and inadvertently supporting the growth of weeds surrounding it (www, FAO 2019). Thus, by not pruning, fertilizing is only to be considered an unnecessary cost as it is not resulting in increased coffee yield. Typically in Uganda when you grow coffee, the trees are usually intermixed with other crops (www, Uganda Coffee Federation 2019). An example is the planting of coffee trees together with banana trees whose leaves provide sunshade. The presence of extensive sun cover is very favorable conditions for the coffee trees. The export value of coffee currently stands at 16% of the total Ugandan exports (www, CIA 2019). The most produced coffee bean in Ugandan coffee production as of 2016 is the Robusta and the remainder is made up of Arabica (www, Uganda Coffee Federation 2019). They account for around 90% and 10% of the Ugandan coffee production respectively. The World Bank (2018) presents statistics from the Ugandan Coffee Development Authority (UCDA) which states that 6% of the produced coffee is consumed within the country while the other 94% goes to export markets. As such, the majority of the market for coffee are found outside of the Ugandan border.

4.3 Buikwe Riis Coffee Farmers

The interviewed coffee farmers were all part of the Buikwe Riis Coffee Farmers which is a savings and credit cooperative, or Sacco. It is located between the capital Kampala and the city of Jinja in the Republic of Uganda (Figure 5). The definition of a cooperative can be that it "is a private business owned and controlled by users and operated principally to provide benefits to users" (Cobia & Andersson 2004, p.4). A cooperative can, for example, act as a vessel for the saving of financial capital but also act as a credit lender. The main reason that the members are using the cooperative is that they need to have some sort of service and they want to have it as economically beneficial as possible. In short, theoretically, the cooperative works to benefit their members. The members use the cooperative to pool risk between them or to address perceived market failures.

The Buikwe district had according to a census done in 2014 a population of approximately 420 000 people of which approximately 50% was considered to be subsistence farmers (UBOS 2017). Around 7,3% of those who are located in the regions rural areas are coffee growers. The UBOS (2017) report from 2017 concludes that the level of coffee productivity in the Buikwe district is comparatively low when accounting for all the districts in the country.

Buikwe Riis Coffee Farmers was founded in 2011 (www, Global Open Data 2019). It has currently 647 individual members and 50 different coffee farmer groups affiliated with it. In the beginning, the Sacco was exclusively directed at supporting coffee farmers but now membership is also open for other businesses and farmers who are not necessarily engaged in coffee production. The farmers' main aim with forming the cooperative was to form an institution that could help farmers to collective pool their savings and use it to lend to members individual projects. This was done in order to facilitate member development and provide assistance to each other. The cooperative is currently member financed and doesn't receive any external financial capital. Here follows a map which gives the geographical location of the cooperative in Uganda:

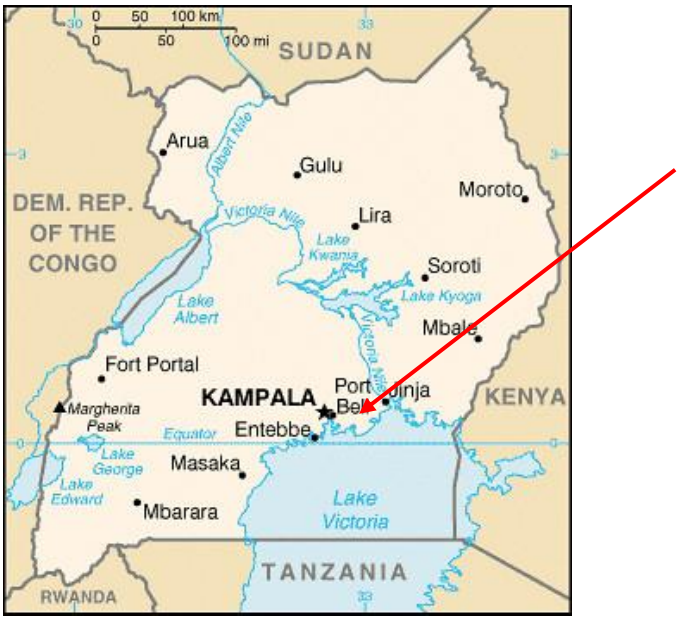

Figure 5: "The Uganda Map" (www, CIA 2019)

4.4 Interview with the coffee farmers

Presented here are the empirical results that came about from the six individual interviews and the group discussion. The section is mostly sub-divided according to the pre-determined interviewed schedule that was used during the interview. The interview guide is attached as an appendix (Appendix 1). Below are the names and personal information of the farmers who participated in the six semi-structured interviews summarized. To clarify: diploma means that the person has finished a secondary level of education.

Table 1: Personal properties of the participating farmers

Name	**Gender**	**Age (Years)**	**Farm size (acres)**	**Primary production**	**Goals regarding agriculture**	**Education Level**
1. Daniel Mugwanya	Male	30	0,5	Coffee, bananas & cassava	Increase agricultural production	Diploma
2. SSebuzi Joseph Kyamabaale	Male	26	0,5	Coffee & bananas	Make money	Diploma
3. Nakalyowa Sauda	Female	42	0,5	Coffee & bananas	Have income	Not finished primary school
4. Peter Bogere	Male	33	0,5	Coffee & vanilla	To get an income	Not finished primary school
5. Francis Semawulu	Male	36	2	Coffee, bananas, vanilla & cows	Get out of poverty	Primary school
6. Kawuma Edward Busuulwa	Male	39	1,5	Coffee & bananas	Get income from crops	Bachelor in education

4.4.1 Overall impression of microfinance

The overall impression of the farmers regarding microfinance's effects on their production is that it has been beneficial for them. The farmers state that their ability to access financial tools previously inaccessible has resulted in an improvement for their agricultural production. Edward, for example, stated that previously when he tried to get money for investments he used to ask both friends and commercial banks. However, he wasn't able to find any money to cover for his investments. Edward says that:

"In the end they [friends & banks] would just say sorry my friend I don't have the money for you."

Since he couldn't receive credit from any other sources he turned to the Sacco and microfinance in order to access credit for his planned investments. The necessary credit to make the planned investments were both easily accessible for him and he didn't have to present any extensive collateral in order to receive it. The other farmers who have been interviewed also tried to borrow from commercial banks but since they lacked sufficient collateral they were unable to receive any money to make investments.

Sauda indicated that the Sacco was fast in disbursing the credit to her which was a positive aspect. Joseph states that he would not have received the credit that he has received from the Sacco from commercial banks. Peter mentions that the reason for why he joined the Sacco is because he wanted to learn how to save and since the Sacco provided agricultural training he also wanted to improve his agricultural knowledge. As translated by the Ugandan student Peter also says:

"They [Sacco] don't ask for collateral like normal banks they [the farmers] can all get the money from the Sacco."

Francis says that previously before he joined the Sacco, he couldn't afford to buy fertilizers which impeded the expansion of his farming activities. As translated:

"It is helpful you as an individual get financial access helps to make timely investments in my production" and *"When he joined the Sacco he expanded his farming before he couldn't afford fertilizers."*

The group discussion yielded the same result that they liked microfinance because you don't need collateral in order to receive credit.

4.4.2 Conducted investments

Daniel states that he used the credit from the Sacco to buy seedlings that were of higher quality than the seedlings that he had before. He also used some of the credit for other matters. He states that:

"I used money to invest in 'Boda Boda' Business."

"Boda boda" is the local language for motorcycle and is usually used to both transporting goods but can also work as a taxi. On the question of how he used the motorcycle in regards to his production he says that:

"I transport using motorcycle before I used bicycle."

Joseph used the money that he borrowed from the cooperative to invest both in his farm but also in a shop where he sells refreshments. Joseph says in regards to his farm:

"I have improved production through getting fertilizer", and *"I used money to pay off my workers which help me at the farm."*

In regards to his agricultural production, he also has been able to buy better seedlings. Sauda used the money which she had saved from a coffee harvest in combination with the credit that she received from the Sacco to expand the acreage of her farm.

Edward has a piggery and he has used the money to buy pig feed and agricultural inputs:

"Okay I borrowed purposely to boost my agricultural production, I get the money to boost my other activities for example I have a piggery", and *"I used the money to buy food for pigs, I buy insecticides."*

Sauda & Edward, have also used some of the credit they have been borrowing to pay for their children's school fees. From the group discussion, the investments that had been done differed some have used it to pay the school fees to their children. The farmers in the group discussion stated that some farmers act as traders in coffee as well and use the borrowed credit to buy more coffee to those shops. Some use the money to buy maize seedlings. The farmers have used some of the borrowed credit to rent proper storage facilities for their harvested coffee beans resulting in increased quality of the coffee batches.

4.4.3 Agricultural training

Before being allowed to borrow credit from the Sacco the farmers have to undergo agricultural training. The Sacco also has supervisors who come and visit the farmers on their respective farms and do a follow up on their progress. The farmers' state that the agricultural training that they have received from the cooperative before they could start borrowing has been very beneficial to them in regards to improving their agricultural productivity. Francis states that he now knows how to arrange his coffee trees in a more productive manner which has resulted in higher harvests. He has, for example, noticed that his coffee trees have yielded more fruits since he started to implement this practice. Edward states that he previously didn't pay attention to how he arranged his trees. Now he plants the trees in a straight line and measures the distance from each tree to the next one in order to get a proper spacing between each tree. He states that he has learned the importance of fertilizing from the training and he also got training regarding the benefits of saving his money. As quoted:

"Before training I particularly didn't organize my farm, I used not to measure and not planting in a straight line", and *"Because before I used not to invest in my agricultural activities the only investment is my labor previously. Since then after training I use the fertilizer."*

Joseph says that he is managing the land in a better way after undertaking agricultural training. He didn't, however, specify how his land management has improved though he claims that by being more conscious about land management he has noticed an increase in his yields. He states that:

"I have been receiving the training. Train us as member. The training that I have received has boosted my agricultural production."

Edward has become more aware of the benefits of proper storage of his coffee beans in order to improve the overall quality of his batches. He has cemented the floor of his storage and he has also used logs on which he places his coffee sacks. By doing so, he says the level of moisture in his beans has decreased. This, in turn, has helped him to increase his overall revenue from his coffee production as the quality of his batches is higher than it was previously.

Peter says that the Sacco could train the farmers in other agricultural productions such as fast-growing crops like beans and maize as well since it takes a long time for the coffee to become ready for harvest. Thus he says that by receiving training in other crop productions it help them to diversify their income streams by having different crop types. He also says that if the Sacco could get other training in how to conduct other business than agriculture it could be good since agriculture can be quite risky sometimes. However, he at the same time recommends the training that he received from the Sacco about how to grow his coffee. He has learned how to prune his trees and proper weed management.

Before receiving the agricultural training from the Sacco the farmers would let their coffee trees grow without any intervention. Now, after receiving the training, the farmers state that they have learned the importance of pruning their trees. By pruning the coffee trees they have noticed that their overall coffee production has increased. As translated by the Ugandan student:

"Education received it especially helped them in their farms, they didn't know how to prune their coffee trees."

The farmers also state that they have improved their storing of coffee which has increased the overall quality of their coffee. Francis also states that he now does selective picking when harvesting the coffee beans. Previously he would just, at the time of harvest, take all the beans from every tree. He now only picks the beans that are red which indicates that they are ripe. This has had a positive impact on the overall quality of his sold coffee batches. Daniel has also started to implement this practice since he joined the cooperative and he too has noticed a quality improvement of his coffee harvests. From the group discussion, it was found that previously the farmers would rush with the harvest in order to collect money fast, resulting in the harvesting of unripe beans. Now they say they are waiting for the coffee beans to become more mature before picking them. To quote Edward:

"I just pick those who are ripe before I used to remove all."

Sauda says that she got more conscious about her farming practices when she started to use credit lending in combination with receiving the training. She also received lessons in bookkeeping. The participants in the group discussion had also received lessons in bookkeeping. For Sauda, the bookkeeping lessons has resulted in her keeping a more detailed record on the costs and incomes of her farm. For example, she notes the costs of production inputs such as seedlings and then she notes the profits that she receives from the harvests. She also calculates how much she has borrowed from the Sacco and how much she has to repay at the end of the lending period.

4.4.4 Insurance

Regarding insurance, the farmers have expressed mixed feelings when it comes to using insurance in their production. The Sacco provides insurance forms from insurance companies at the cooperative quarters for the farmers to fill in if they want to have insurance. Joseph has stated that he has both drought and life insurance and he also would like to have fire insurance to protect both his refreshments shop and his farm:

"In case of fire I would like to have insurance for that for both farm and shop."

Sauda states that she thinks the insurance premium is too expensive in order to motivate her to have one. Francis has weather insurance but he hasn't, as of yet, had any use for it. However, he thinks it is good to have insurance since if his coffee dries up due to drought he would get compensated for his losses. From the group discussion conducted with three coffee farmers, they collectively stated that they have no use for the drought insurance. Even though they have experienced instances of it happening, drought hasn't had a large effect on their production in order to motivate them to use insurance. Peter says that even if they have received training about insurance he and the member of his lending group are not convinced of using insurance. As translated by the Ugandan student:

"Why pay for something that you don't understand?"

They think it is too expensive to consider at the moment. He says they don't want to pay money to something that they really don't know the benefits of using, thus the training provided by the Sacco was not sufficient to convince them.

4.4.5 Saving

The Sacco which hands out the money has also provided the farmers with the ability to save money at the Sacco. Francis believes the Sacco is a safer place to save the money than doing it at home which he did previously. According to Sauda the Sacco also demands that you have to be a good saver in the Sacco if you want to increase the amount of credit that you can borrow. Your borrowed credit amount is also determined on how good savers your loan guarantors are. From the group discussion, it was learned that the Sacco has helped them to save. Peter says that he has learned the benefits of saving his money and he is not as extravagant as he used to be. Using the translation by the Ugandan student:

"He learned how to save, no longer as extravagant"

He also stated that previously he and other people he knows used to save their money in boxes inside their homes. Francis says that previously there were problems with people potentially stealing his collected savings at his home. As translated through the Ugandan student:

"We actually have people who come in and steal our savings in our homes."

He also stated that before he joined the cooperative he didn't know how to properly handle his money.

4.4.6 Credit borrowing and repayment

The Sacco offers a grace period for credit lending. The meaning of grace period is that the Sacco allows the farmers to repay the loan when they have the money available usually after the harvest of some crop that they have on their farms. During the grace period, you only pay interest on the loan that you have taken. Francis states that he would like to have his interest rate to be a little lower as he believes that it is currently hindering him to expand his production faster. The Sacco tailor the repayment period according to what crop you are planning to invest in. The maximum length that a grace period can be is three months. The farmers feel that the scheme of grace periods relates well to their agricultural practices as Peter explains, that he might not have money available to immediately start repaying the loan. Francis says that he would have at the end of the grace period the money available to repay back the loan. He usually takes the loan close to the time of harvest in order to be sure that he can pay off his debt. He also said that in the translation of the Ugandan student:

"If you plant beans [not coffee beans] you can harvest it and pay back the money [you borrowed] within that timeframe of three months." and "*If one crop fail the other crop harvest can be used to repay the loan."*

Joseph mentioned, however, that there have been some challenges with repayments due to the fact that the harvests can fail due to poor production conditions that season. Daniel says that if you would not be able to repay the loan after a bad harvest you can go and talk with the staff of the Sacco and explain the situation to them. Sauda states that if you fail to repay the loan the Sacco would give you a fine. After an interview with the leader of the cooperative, the fine was found out to be set at 5% of the total loan amount that the farmer had borrowed. If the member is able to explain the failure to repay, the fine can be erased. Joseph says that as he works part-time at the Sacco he repays a smaller part of the loan using some of his salaries in combination with his banana harvests and he repays the majority of the loan when he has his coffee harvest. In the group discussion it was stated regarding grace periods as translated:

"Yes it has helped them and if you have money you can pay before the grace period ends."

The credit, according to the farmers, is disbursed and repaid in different ways. Some have stated that the finance is disbursed in cash. Edward says that he repays both his loan and interest using cash payments. He would like to be able to pay at least the interest by using mobile money since he might sometimes be very far away from the Sacco. Peter says that in his lending group, they currently repay the loan in cash. On the question, if he has considered mobile money he says that he thinks that there is currently a lack of trust between the leader of a lending group and the members of it. He says that it is better to pay the money in cash and sign in a ledger that you have done so. This he says, is because otherwise with mobile money the leader can say that he hasn't received any money even though the farmer has sent it. From the group discussion, it came forth that they would welcome the idea of paying back the loan using a mobile phone instead of physical cash since sometimes they can be at times far away from the Sacco.

Daniel states that he would like to receive more credit from the Sacco so he could buy more land. In his own words:

"I would expand my acreage. Buy more agricultural land."

However, he says that at the moment, due to the size of his farm, he is not allowed to receive the necessary credit, in short, he lacks the necessary collateral. Sauda states that she would like to receive more credit to expand her acreage but she says that if someone would receive so much money they could "run away with the money". Joseph says that if he was able to receive more credit from the Sacco than he gets today he would expand the acreage of his farm.

Concerning collateral, the farmers have stated that in order to receive credit to make investments they would have to have 2-3 guarantors who both are members in the Sacco but also have an account. The guarantors are used to confirm that the person is credit- and trustworthy. The Sacco also bases the collateral on, for example, how much land the farmers possess. If your borrowing is higher than what you have saved they would require assets such as land or a motor vehicle as assets. All of these factors supply the base on how much credit the farmer can access. Peter says that you will bring back the money that you have borrowed since that money is your friends and family's money and they would take it well if you failed to pay back the loan. As translated:

"At the end of the day it is their friends and relatives money you cannot use a bad harvest as an excuse"

In the group discussion, it was found out that the farmers motivate/remind each other to pay back their loan. If one farmer does not pay back the borrowed money in time another farmer, in turn, cannot borrow money for their investments.

4.4.7 Recommendation to use microfinance

Regarding if they would recommend microfinance to other farmers to finance their activities both agricultural and non-agricultural the farmers say yes they would recommend it. Daniel says that the whole credit borrowing process is very transparent since the Sacco is very close to his farm. The staff that hand out the credit to him are his friends and also they have farms of their own so they are familiar with the dynamics of agriculture and they understand his situation. In his words:

"It is user-friendly, they [the Sacco] are near to us compared to commercial banks. Yes, it is transparent", and *"Since they [the staff] are farmers themselves they know how the production is."*

Edward says that one of the effects that he has noticed concerning himself is that he now works harder than he did previously. The reason for this is that he now has a commitment to repay the loan as he has borrowed indirectly, through the Sacco, from friends and family who also eventually will need to use the same funds in the future:

"Because I joined the institution [the Sacco] one of the motivations is to be a hard working person [as] you have to pay back the loan."

Francis recommends using microfinance services for both financial and social reasons. The group discussion that was held with three farmers yielded the same response. They said they would recommend microfinance since the Sacco which provided them with microfinance has also provided them with an extended network. The farmers are brought by the Sacco to other

farmers in other communities in order to be educated on how farming can be conducted such as better crop management.

Joseph says that the cooperative organizes visits to through NUCAFE, for example, they had an excursion to a model farm in another district. NUCAFE is an organization in Uganda that focuses on supporting Ugandan coffee farmers (www, NUCAFE 2019). These excursions have taught him valuable lessons on how to improve his coffee production and he has also gotten a better understanding of how he can better negotiate his prices. As quoted:

"We go to NUCAFE farm, we see the training of how to farm coffee. From there we see how to best produce coffee."

The farmers in the group discussion also state that they have been able to extend their network and it has benefited them. As translated:

"Social capital has benefited them they have gotten new friends out of being members in the Sacco and being known if you have something to sell then there is a ready market in the Sacco members. They share knowledge with each other they visit each other farms [and learn] how to improve their farming practices."

Edward says that he sometimes visits his new friends' farms and they, in turn, come to visit him in order to learn from each other on how to increase their production. As he says:

"Now these members of the Sacco are my friends. They are my family extended."

Joseph says that he would be glad to show farmers who have not used microfinance his farm in order to convince them of the positive effects that the microfinance has had on his production:

"*Yes I can, I can show them [friends] what I have now. I can show them my farm and my business. I can convince through example."*

Peter also recommends borrowing from the Sacco since they would never put pressure on him to pay back the money. They would just call him to inquire about the reason for why he has failed to repay the loan. As translated:

"They won't call the police on me if I fail to pay back at the exact time."

This, according to him, is in comparison with commercial banks which would not be this forgiving. He also recommends the cooperative since he has gotten new friends and found farmers who want to sell coffee beans to his coffee shop. He states that the members in the Sacco learn how to grow coffee from each other at the farmer meetings that the Sacco organizes. He would also like to show his friends the benefits of using microfinance as quoted by the Ugandan student:

"He says that using microcredit is good and he would like to show his friends how his agricultural production has improved in order to motivate others to join the cooperative."

However, some farmers have expressed some other alternatives to borrowing credits to solve their production problems more efficiently. From the group discussion, it came forth a desire

that the cooperative buy the fertilizers and distribute them to the farmers instead of lending cash for them to individually purchase it. Both because it is expensive and also some farmers misuse the credit that they receive. Francis says that it is hard for farmers to buy pesticides themselves. He says that he would like the Sacco to buy pesticides for the farmers. The farmers have a problem of crop diseases in coffee and they cannot access the pesticides they need to treat for these diseases in time to avoid losses incurred from disease outbreaks. Sacco can, however, buy the pesticides in time he argues. He says that the pesticides the Sacco would hand out would be authentic and not fake as it can be other times when you buy on your own. He also states that he would like the Sacco to buy irrigation pumps which the farmers can use in times of drought.

5 Analysis and discussion

In this chapter, the empirical data presented in the previous chapter will be analyzed using the grounded theory inspired approach. This will lead to an overarching theory which will explain how microfinance can be utilized when addressing coffee productivity in Uganda. Thereafter, theory presented in chapter two will be used to support the arguments and statements of the overarching theory. Lastly, a discussion will be conducted regarding the contributions the theory will make to our understanding of microfinance as a phenomenon.

5.1 Data analysis using grounded theory

In this part, the collected empirical data will be broken down first into concepts that will form the basis for the development of categories. The categories will, in turn, form the foundation for the creation of an overarching theory which will help to explain how microfinance can be utilized in order to support Ugandan coffee farming. Below is a model inspired by the model presented by Gioia et al. (2013) of how to visually display grounded theory. It starts with examples of the developed concepts to the left and ending with the proposed overarching theory to the right.

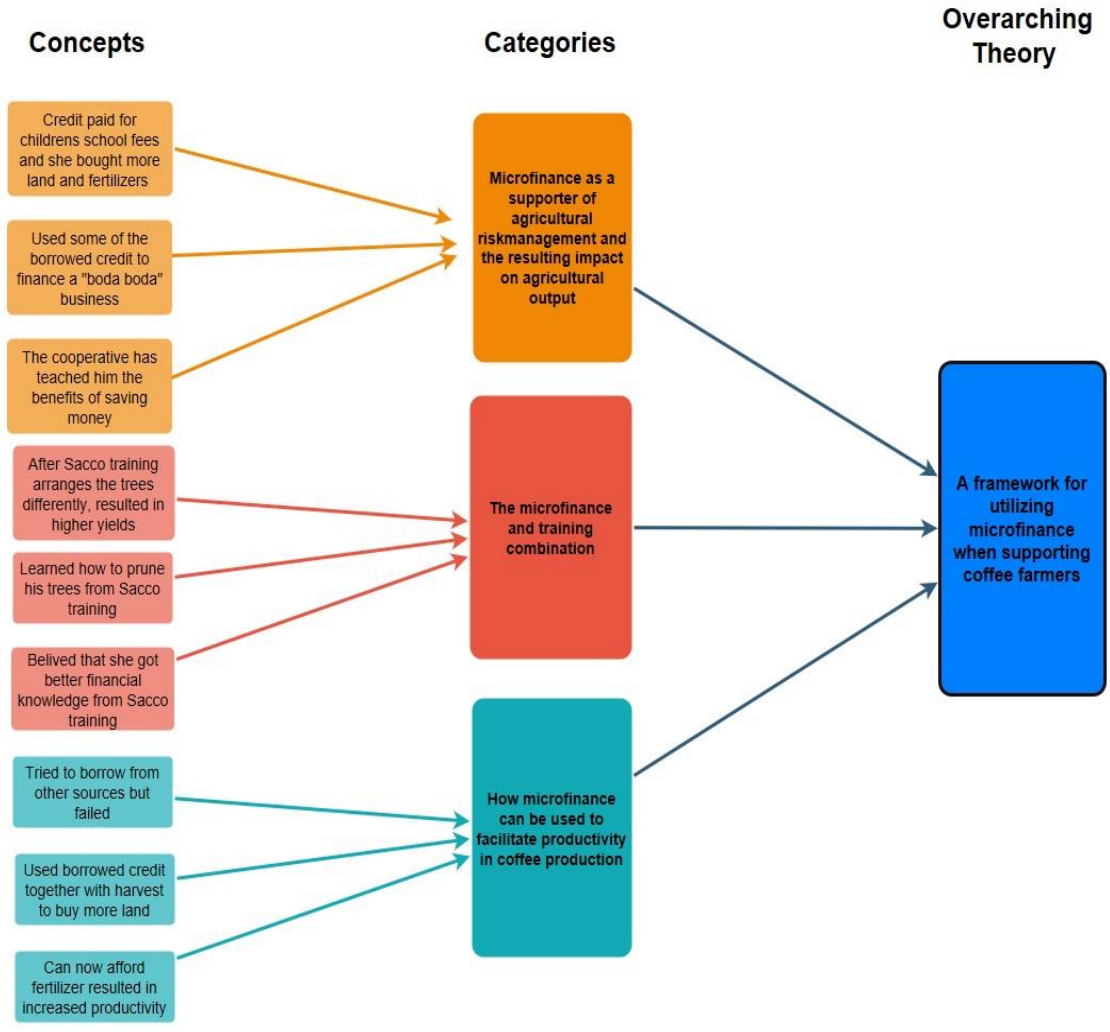

Figure 6: Model of the grounded theory inspired approach to the analysis of data (own processing)

5.1.1 Concept generation

Through the use of words or phrases discerned in the data collection concepts will be generated. Practically it will be done by using tables with selected keyword, citations, opinions or statements. The keywords and statements was defined through identifying what the farmers emphasized during the interviews as the most important factors that made them feel the way they felt about using microfinance. In so doing the concepts developed will have the support of the collected empirical data. Here follows an example of how the interviews were transcribed and concepts were developed by selecting keywords from the interviews with the coffee farmers. The example, in this case, is how the category "**Microfinance as a supporter of agricultural risk management and the resulting impact on agricultural output"** was developed from the concepts discerned from the transcribed texts. The development of the other two categories from determined concepts will be attached to this thesis as an appendix (Appendix 3).

Table 2: Example of concept generation from empirical evidence

Name of farmer	**Citation, opinion or statement**
Edward	• *"I used the money to buy food for pigs, I buy insecticides"*
Peter	• He is not spending as extravagantly anymore. • He wants training in other agricultural productions as well since agriculture can be a risky business sometimes. • He thinks insurance is too expensive in order to motivate to use it.
Group discussion	• They used the money to pay for their children's school fees and seedlings for their agriculture. • They don't use insurance since they haven't experienced any drought. See no reason to use it.
Sauda	• She paid for her children's school fees using received microcredit. • She bought more land and fertilizer. • She is not using insurance as of yet as she thinks it is too expensive.
Joseph	• He states that he has drought insurance & life insurance. • He wants fire insurance also. • He has used some credit to finance a refreshments shop.
Daniel	• He has used some money to finance a "boda-boda" business. • He uses insurance. • He has also bought seedlings of higher quality.
Francis	• *"We actually have people who come in and steal our savings in our homes"* • He has weather insurance which he thinks is good since it can protect him from drought.

The combination of the concepts that are displayed in this table has resulted in the creation of the category: "**Microfinance as a supporter of agricultural risk management and the resulting impact on agricultural output"**. There have been statements regarding the use of borrowed credit for the purpose of paying for school fees, diversifying income streams, buying more land or buying more or better production inputs. The farmers have also been given the ability to save money (financial capital) or have begun to see the benefits of doing

so. There have been divergent opinions about the importance of insurance which can be deemed as a risk management measure. Hence, from these elaborations and using previous theories on the subject of risk management the researcher has decided to create this aforementioned category from these determined concepts. This category will then help to explain how the farmers believe that the microfinance services has benefited them and their agricultural production. The other two categories developed from concepts which will form the foundation for the later overarching theory is **"The microfinance and training combination"** and **"How microfinance can be used to facilitate productivity in coffee production".**

5.1.2 Category generation

In this section, the developed categories are elaborated on more in detail by using the empirical evidence provided.

Microfinance as a supporter of agricultural risk management and the resulting impact on agricultural output

From the empirical data previously presented there exist support that the cooperative has taught or helped the farmers to better manage their finances in a way that wasn't possible before. Their money is now stored in a safer place than at home and as one farmer stated he is less extravagant spender than he was before. For example, if you knew that your money was at risk of being stolen you would not be very inclined to save in order to build up your financial assets. This could then result in that if, as an example, a drought would occur the farmer would not have the money available to efficiently cope with the situation.

From the previous statement it can be concluded that since the Sacco is providing a place for the farmers to save it has arguably helped them to better cope with risk in their production. If they would experience a downturn they would have money available to better handle such an adverse event. It has also been stated that you can borrow more from the Sacco if you are a good saver. By doing so the Sacco is motivating the farmer to be a good saver as well, inadvertently helping the farmer reducing their risk exposure.

The borrowing of credit have allowed the farmers to diversify their income streams by facilitating investments in non-agricultural activities. In the case of two farmers, they have used their borrowed credit to finance a "boda-boda" business or a refreshment shop, respectively. By diversifying their income streams they can be said to have reduced their overall risk exposure. In short, they are not singlehandedly dependent on coffee farming for their living. One business can be used to support the other economically if the other would experience a short downturn in profits.

All of the interviewed farmers have been able to buy important inputs in their coffee production or have been able to increase the acreage of their farms with the borrowed credit. They can be said to have improved their physical assets through better land management, using higher quality seedlings or by increasing the fertility of their soils by being able to buy and use fertilizer. One farmer used some of the borrowed credit to buy insecticides to use in his production. By being able to do this the risk of pests ruining the harvest diminishes to a degree. Thus, the farmers have received better tools to manage their level of risk exposure and, in turn, increase their productivity. One farmer also stated that he now works harder with his farm than he did before since he has repayment commitments to his friends and family. By

conducting a high-risk activity, that is to say borrowing money, he has also received an unexpected reward from it, in this case, increased work commitment. In the long run, this increased work commitment could lead to increased coffee productivity. One can then argue for that if you would only receive the money without any commitments attached to it this effect would have not been observed.

One of the farmers mentioned that the cooperative could start to educate them about other business ventures and other agricultural production types than coffee in order for them to able to better manage risk. By only focusing on coffee the farmers can become more vulnerable to risk. If the farmers concentrate on only one type of production and not diversifying their production and having diverse income streams to their household it may increase their overall risk exposure. In short, they might not have any supporting secondary activity available to them if their coffee production is affected negatively by, for example, extreme weather such as drought.

There have been conflicting reasoning's regarding insurance and its usefulness in agricultural production. Some of the farmers have expressed a positive feeling towards it and others have expressed the opposite view. Some of the farmers have said that it is too expensive to implement it. Here, education about how insurance works and why it is important can be crucial in order for the other farmers to take up the practice of insuring their crops.

Some of the coffee farmers have stated that they have used the borrowed credit to pay for their children's education. By doing so the farmers are helped by the borrowed microcredit to increase the level of education in their respective households.

The farmers have collectively stated that the Sacco has helped them make new friends and as one of them said some of the members are his extended family. The farmers are visiting each other and getting taught how you produce coffee in a different manner. As was noted from the group discussion the networking has helped them to increase their productivity. They have also found new customers through the cooperative. Thereby their newly extended network has provided the farmers with an ability to diversify their income streams but also educated them to better conduct coffee farming. The Sacco also brings in external field officers that go to the farmers' respective farms to follow up on their progress. It can, therefore, be said that through the extension of their network the farmers have got more access to agricultural expertise which can be considered to be an important tool in managing risk.

Thus, drawing from the empirical evidence, it can be said that microfinance has had a positive impact on reducing the risk exposure of the coffee farmers. In turn, this could very well positively influence their agricultural output in the long run. However, it should be noted that microfinance alone has not contributed to the reduction in risk exposure as it has been offered in combination with other services. Network extension can be considered as such a service that also arguably has had a positive result on the farmers' risk management. Hence, it can be said that the extended network that the Sacco has provided in combination with the credit lending has helped the farmers to better manage the risk exposure in their coffee production. The ability to save has been beneficial for the coffee farmers as well. It has encouraged/enabled them to build up their financial assets over time which can aid them to be better prepared for unexpected downturns in their coffee farming.

The microfinance and training combination

Before they are allowed to borrow from the cooperative the Sacco is making the farmers undergo agricultural training. As one farmer mentioned, he is more conscious about how he should arrange his coffee trees which have resulted in a higher yield on his trees. Another farmer stated that he now knows that he should pick only the ripe beans and not the unripe. The training provided taught one farmer the importance of using fertilizer in his agricultural production, previously he would solely put his own labor as an input, nothing else. By receiving training about how to conduct coffee farming in a more efficient manner the farmers have noted an increase in their productivity. One farmer has stated that she now keeps records of her harvests and calculates the production costs and profits of her farm. One can say that the farmer has moved from being more of a subsistence farmer and now sees the farm as a business unit where resources go in and are transformed into a finished product. Some of the farmers have started to prune their coffee trees as a way of maintaining the productivity of the trees. One farmer has also learned proper weed management.

The farmers have also received training about the importance of using insurance in their production even if some are still not convinced enough to implement it in their agricultural production.

By having the farmers undergo agricultural training before being allowed to borrow credit the Sacco is helping the farmers increase their overall agricultural productivity. The borrowing of credit have enabled the farmers to buy important inputs or finance new enterprises. However, the training provided has in its own way been an important facilitator in order to increase the agricultural productivity for the coffee farmers. It can be argued that the provision of training is one of the reasons the farmers believe that microfinance has been beneficial for them. The reason for this is that they now have a better understanding of how to make the most out of the credit that they have borrowed.

Thus, the conclusion from this is that a MFI should consider doing this combination in order to capture the full potential for the microfinance services when lending to Ugandan coffee farming.

How microfinance can be used to facilitate productivity in coffee production

The farmers have been positive in regards to how the repayment scheme is tailored as it fits better with the seasonality of coffee production. As one farmer stated he usually borrowed the money just before the advent of harvest. Another farmer said that he immediately didn't have money available to repay back his loan so a flexible lending scheme was favorable for him in that regard.

Some of the farmers had tried to borrow money from commercial banks but they couldn't present the necessary collateral for them to be able to borrow. In turn, they mentioned a positive aspect with borrowing from the Sacco was that they didn't need to present extensive collateral in order to receive the credit. The issue of lacking collateral is addressed by the Sacco by making the farmers co-guarantee each other. From the group discussion, it was made clear that the members of the Sacco motivate each other to pay back the loan. There was a statement made that by a farmer that if he is not paying back his loan then he will not be looked down on favorably by friends and family since it is, indirectly, their money as well. One farmer stated that he liked to borrow from the cooperative since the staff was his friends.

Another aspect was that the staff were farmers themselves and were familiar with the production and had an understanding attitude if a farmer didn't manage to pay back at the exact time.

It can thus be said that by having staff who are familiar with both the agricultural production but also familiar with the people that borrow from the cooperative, the Sacco addresses some of the issues with the lack of information about a credit taker. This makes it possible for additional farmers to receive credit even though they cannot present extensive collateral. A recommendation to the MFIs' can be that they bring in agricultural experts that know the specific production, in this case, coffee. Another recommendation is to, if possible, bring in people from the local communities that can act as a sort of screener as they already know the prospective borrowers. This might erase some of the information asymmetries that can exist in rural areas. A local representative will possess knowledge about the local context which can help to address some of the information asymmetries that might exist between borrowers and financial institutions.

The farmers have expressed that before they were able to borrow they couldn't buy important inputs such as fertilizers or higher quality seedlings in their production. After being able to borrow, their production has expanded because they have been given the ability to make necessary production investments. One farmer was able to buy a motorcycle which he then used to transport his coffee, previously he used a bicycle. One can argue that since it goes faster for him now to deliver his coffee to the market he has more time to do something else such as putting in more labor hours into his farm. This can, in the long run, have a positive effect on the productivity of his farm.

It has to be noted that some of the farmers expressed that the cooperative should buy the inputs and distribute them to the farmers instead of every farmer buying their own inputs. The reason for this was that the institutions around the farmer fails to guarantee that, as one farmer stated, the herbicides that he buys are authentic and not fake or not the right product. From this statement one can conclude that stronger institutions and state law regarding for example proper herbicide certification could make microfinance a more effective tool to stimulate growth for the coffee farms.

There are also some farmers that still want more credit than they are allowed to receive today. In some aspects, they are still credit constrained as they cannot buy more land through borrowing. However, it can be argued that by providing the farmers with a place to save financial capital they can possibly over time be able to get enough funds to expand their acreage. As one farmer mentioned that she did exactly that! She combined money from her previous coffee harvest with borrowed credit from the Sacco to expand her farmland. The saved money can also be used in the future to invest in perhaps irrigation pumps. As one can tell, overall, microfinance has stimulated increased productivity for the coffee farmers by allowing them to buy important and previously inaccessible production inputs.

However, as mentioned in the previous categories, the reason for why the borrowing of the credit has been a success overall is the result of combining different factors with the credit borrowing. Hence the next sub-chapter will present a theory based on these three previously mentioned categories. This theory will propose a strategy on how microfinance can be conducted in order to more effectively support coffee farmers.

5.1.3 A framework for utilizing microfinance when supporting coffee farmers

Here follows the overarching theory which has been generated through combining the three previously presented categories. It will provide insights and conclusions on how microfinance should be conducted when its aim is to support coffee farmers.

The first thing that an MFI needs to have, when lending to coffee farmers, is to have a repayment cycle that is tailored to the nature of agricultural production. This, as mentioned in previous chapters, agriculture is characterized by seasonality and uneven income cycles. Even though the coffee harvest is not finished other household incomes such as the selling of bananas can help to repay the loan. By having staff that know how agriculture works and know the people that come to borrow, the Sacco has addressed the information asymmetries that can exist when borrowing to smallholder farmers. Moral hazard can be addressed as well since guarantors are needed to receive credit. Since the farmers know the people that they indirectly have borrowed from they have stated that they have a strong incentive to repay their loan. The farmers, in turn, motivate each other to repay their respective loans.

A microfinance institution that wants to start lending funds to coffee farmers should consider enabling the prospective coffee farmers to save money at the institution. The reason for this, as mentioned before, is to create an incentive for the farmers to build up their financial assets over time. Through implementing this practice the level of risk exposure for the farmer will decrease. It can, as well, enable the farmers in the long run to make investments that might be hard for the MFI to borrow to such as in this case land expansion or in investments related to irrigation. Through saving the farmers might also learn the benefits of practicing it and increase their knowledge about money as the empirical evidence has shown.

Another important factor is the effect the financial and agricultural training has had on the agriculture output, risk management, and the financial management for the individual coffee farmer. Thus when an MFI is considering lending to coffee production in Uganda it should be ready and able to provide both agricultural but also financial expertise. In so doing the level of education for the intended farmers can be improved. This can also be related to that, as one can see on the level of education the farmers have attained, some of them have not finished primary school. By providing training as a pre-requisite in order to receive credit for investments it can be argued that the MFI is reducing the farmers' overall risk exposure. The farmers also get a better understanding of how to make the most of the credit that they have received from the MFI. Training in other production types or enterprises than coffee can also be a good way of diversifying the income streams and thus lower the overall risk exposure of the farmer. The empirical evidence previously presented supports that training has had a positive effect on the productivity of the farmers and improving their financial knowledge.

By facilitating network extension for the coffee farmers the MFI can lower the overall risk exposure for the farmer but also support the training capabilities of said farmers. Regarding the risk exposure an extended network would mean both access to more knowledge but also access to new markets for their produce. It can support the training capabilities through, for example, farmer meetings or by organizing visits to other coffee districts. One thing that the farmers mentioned was that they would like to show other farmers what they have done in order to convince them to implement better farming practices. Showing through example can, therefore, help with encouraging coffee farmers to adopt new technologies and practices. In so doing it can help the farmers get a better understanding of how to increase the productivity

of their respective farms. As one farmer stated he and his friends had not been convinced of using insurance in their production. If a fellow farmer would show the benefits of insurance more farmers could arguably be inclined to use it and, in turn, lowering their risk exposure. This could then make them more attractive to lend to as they are insured against extreme weather events.

The four inputs that are emphasized in this theory are thus as follows: *income cycle related borrowing, financial and agricultural training*, *network extension* and lastly *provision of saving facilities*. Through the inclusion of these four inputs, a MFI can arguably increase the possibility of repayment. The reason for the increased possibility is because this strategy of borrowing can, through analyzing the empirical evidence, help the coffee farmers to increase their coffee productivity. By only borrowing credit but not having the other inputs available to them it can be argued that the productivity results for the coffee farmers would not be as positive. There is as well reason to believe that their feelings towards microfinance had not been as positive as it have been. This statement is grounded in the reasons the coffee farmers emphasized when they stated why they would recommend fellow farmers to utilize microfinance in their production. This proposed theoretical framework can be displayed in a simple model which is shown below.

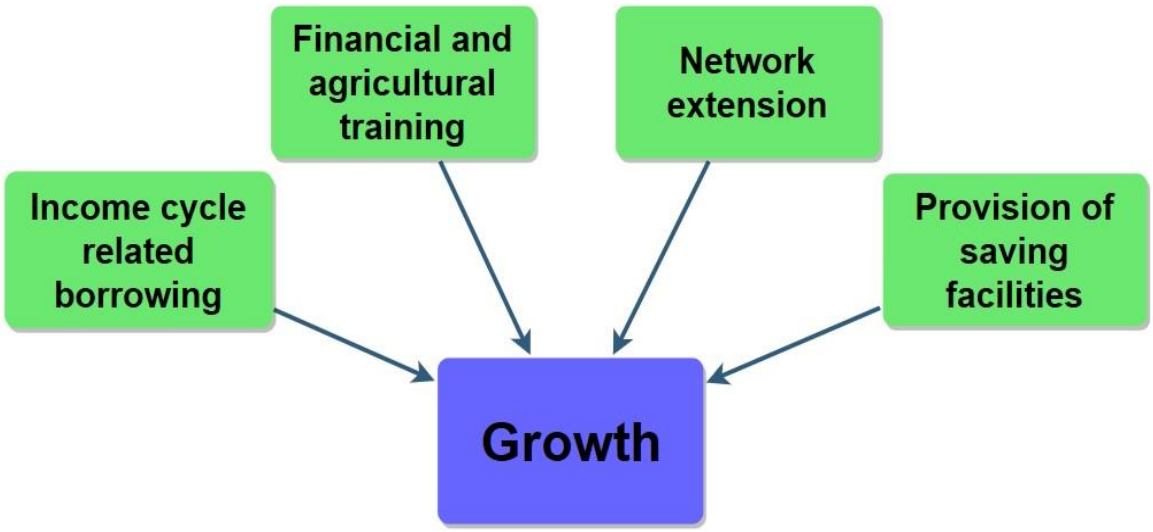

Figure 7: Model of "A framework for utilizing microfinance when supporting coffee farmers" (own processing)

These four inputs have distinguished themselves the most from the empirical analysis. Distinguished, as having the most impact on why the farmers have perceived that microfinance has been good for them and their coffee production. Hence microfinance should be seen as a part of a bigger package where multiple inputs are inserted into a farm unit which will create multiplier effects for the coffee productivity. For example, if the farmers would just receive credit without receiving the training they would not know that pruning is important to enhance coffee productivity. Thus, if they would buy fertilizer using the borrowed credit they might not have noticed a difference in their productivity. On the other hand, if they would have only received the training they would not be able to make the necessary investments even if they would possess the sufficient know how. Investments that are necessary to increase their coffee productivity. To clarify: this theory concludes that microfinance should be seen as an integral part of supporting the development of a more

productive Ugandan coffee farming. However, it needs the inclusion of other inputs in order for it to more efficiently achieve this goal.

It should be noted that this theory has some limitations to it. As this theory has been developed without any quantitative data it cannot be asserted by how much productivity has increased. The statements that it has increased are purely based on the farmers' statements that their coffee productivity have increased or been boosted. Thus it cannot be asserted in quantitative terms what effect on, for example, the participation of microfinance has been on the income of the coffee farmers. Another critique that can be made against the conclusions of this theory is that the researcher did a literature review of already existing theory before conducting the empirical analysis. This could have led to that the researcher has been biased in the analysis of what factors are most important for the success of microfinance in this case. However, it should be noted that the importance of training and networks had not been noted before the analysis of the empirical data was collected. Thus it can be said that even if the researcher to a degree was biased about the importance of some inputs the main conclusions of the theory are grounded in the researchers own analysis of the collected empirical data.

5.2 Discussion

In this part the statements made by the generated overarching theory **"A framework for utilizing microfinance when supporting coffee farmers"** will be strengthened using previous scientific theory. Later in the chapter, there will be a discussion on what theoretical contributions the proposed theory will make to microfinance as a scientific field.

5.2.1 Risk management and its importance in agriculture

The proposed theory argues that microfinance has had a positive effect on the risk management of the coffee farmers which in turn has had a positive effect on their productivity.

This theory reaches the same conclusions as Wright et al. (1999) does that a farmer that has access to assets that can, at a short notice, be turned into liquidity can better cope with risk. The statement that savings play an important role in risk management is strengthened by the findings of Ahsan (2011) which found that shrimp farmers who are saving money can better cope with surrounding production risks. This statement is further supported by Brune et al. (2016) who concluded that the ability to save money had, in the long run, a positive effect on crop yield and, as a result of this, increased the farmer's profits.

Another claim that this theory is making is that by borrowing credit and use it to invest in other businesses the farmers are better managing their overall risk exposure. This claim is in accordance with Wright et al. (1999) reasoning's that by having more diversified income streams a farmer can better manage their assets which, in turn, can help to manage their risk exposure. The claim further supported by Velandia (2009) and Carter (1997) statements that diversification is a way of managing risk. The reason for this is because some of the coffee farmers conduct different activities which are detached from one another in regards to what events that affect them.

The generated theory makes the argument that by being able to buy inputs such as fertilizer the farmers can more efficiently handle their risk exposure. Fertilizer increases the fertility of

the soil and should lead to higher coffee yields in the long run. Wright et al (1999) state that borrowing can aid with the investment in technology which has a positive effect on asset management or improvement of said assets.

The proposed theory claims that in order to succeed with microfinance when borrowing to the coffee sector the MFI should provide some sort of network extension. This claim is supported by Wright et al. (1999) reasoning that improved social assets such as stronger networks can help a farmer to better cope with production risks. Ahsan (2011) found that farmer cooperation was an effective countermeasure against risk as it provided, for example, an extended customer network for the individual farmers. Gao et al. (2013) stated that social networks should be regarded as an important risk management tool since it supports the knowledge enrichment of a company. Social networks can as well aid the company in discovering new areas of venture.

Cervantes-Godoy et al. (2013) suggest in their study that one thing that could impede a family to get out of poverty is when a family removes their children from school in worse economic times in order to save money. By having credit available to them the coffee farmers are still able to, even if they don't have money available to them at the present moment, pay for their children's education. As Ahsan (2011) showed in Bangladesh, a lack of education is affecting farming output negatively since the farmers lack the necessary knowledge to understand how to handle their production risks in a proper manner. By retaining and enhancing the education for the household of the coffee farmers it can be argued the farmers can in the future implement more efficient risk management practices. These more efficient practices should then lead to an increase in agricultural output according to Ahsan (2011). This argument is further strengthened by the conclusion of Ellis (2000). The conclusion was that by allowing the children of a household to get education more sources of livelihood will, in the long run, be available to that particular household.

As such, these previous theories presented above goes to support this proposed theory's claim that an access to microfinance can have a positive influence on the risk management of the farmers. In turn, this will have in the long run a positive effect on their agricultural output. The proposed theory's arguments, that microfinance needs the support of saving, training, and networks in doing so, have also a theoretical foundation in previous research conducted on risk management.

5.2.2 Education and its effect on agricultural productivity

The claim that financial and agricultural training needs to be an integral part when disbursing microfinance to coffee farming has found supportive evidence in previous research made on the subject.

Huffman (2001) and Shultz (1988) both concluded that the level of completed schooling played a positive role in relation to agricultural productivity. As agriculture often entails many decisions on how to allocate resources (Welch 1970), the impact of training on the allocative efficiency of the coffee farmers, in this case, is not to be underestimated. This is in line with the finding that was done on farmers in India regarding the relationship between higher level allocation efficiency and a higher level of schooling completed (Feder et al. 1985). An empirical example of this is that the farmers' now keep records of their harvests but also have learned to prune their coffee trees. As mentioned in the empirical part, regarding the properties of coffee production, fertilizing without pruning would only result in unnecessary

costs for the coffee farmers (www, FAO 2019). It can therefore be argued that if the credit had been given without any training the farmers might have just bought the fertilizer, used it, but not noticing any major changes in their productivity. This argument is further supported by the findings made by Davis et al. (2012) which presented a positive relationship between farmer participation in agricultural field schools and increased agricultural productivity in Eastern Africa.

Training can also be argued to help a MFI to reduce the information asymmetry problem which is associated with borrowing to smaller sized firms (Dong & Men 2014). The reason for this is because the MFI already know that the farmer has undergone agricultural training and thus should know how to make the most out of the borrowed credit in his coffee farming. The reduction of information asymmetry would in turn enable for a more flexible repayment scheme. Thus it can be said that the input financial and agricultural training supports the input income cycle related borrowing.

The research made by Appelton & Balihuta (1996) support the claim of this proposed theory that training has had a positive effect on the productivity of the coffee farmers. One example that they mentioned was the increased yield of grain and the positive relationship it bore with the level of schooling completed. Even if they use schooling as an example it is not farfetched to say that the financial and agricultural training provided to the farmers in this case have resulted in increased productivity. As stated previously some of the farmers have noticed productivity increases by implementing new practices learned from the education offered to them. Appelton & Balihuta (1996) stated that showing by example is a good way of supporting the learning process for Ugandan farmers. Thus, the important role of network extension comes into play as the farmers meet and show each other new farming practices. The extended network as an input can thus be argued to support the input financial and agricultural training suggested in this proposed theory. This further strengthens the relevance of providing an extended network to farmers who are engaged in micro borrowing.

5.2.3 Finance and its impact on farm growth

The generated theory claims that microfinance has, using the empirical evidence, indeed helped the farmers to expand their farming activities as they are, to an extent, no longer constrained financially.

The findings of Butler & Cornaggia's (2011) research determined that it existed a positive relationship between access to external finance and agricultural productivity for farmers in Minnesota. Conning & Udry (2007) stated that access to financial sources could influence the decisions that a farmer makes. In this case, the coffee farmers have been able to start new businesses, expand farm acreage or invest in technology that can increase agricultural productivity such as fertilizer. As mentioned previously, the farmers had a hard time, before utilizing microfinance, to access the necessary credit from banks or friends to carry out investments. Since they couldn't conduct investments they were being constrained from expanding their coffee farming. This argument is further strengthened by the findings made by Mahmood et al. (2009). The authors asserted that livestock farmers in Pakistan were able to achieve more significant growth if sufficient financial capital was available to them.

Levine (2005) found that especially firms that were of smaller size benefitted relatively more by efficient and prevalent financial institutions. Levine (1999) concluded as well that financial institutions help to assemble capital which will stimulate growth. Beck et al. (2006)

strengthened this claim by stating that credit-constrained smaller firms showed a slower rate of growth than larger enterprises. Vos et al. (2007) stated that by being more involved with borrowing a firm had a higher chance of experiencing a comparatively higher rate of growth than firms that did not.

The generated theory makes the argument for using both agricultural experts but also enroll local community representatives for a MFI's customer's screenings. By implementing this a MFI can address the issues of information asymmetry and moral hazard. Through addressing these problems more flexible lending schemes can be implemented which could arguably lead to increased credit access for the coffee farmers. According to Dong & Men (2014), one reason why smaller firms tend to be credit constrained is because of the existing moral hazards and lack of information that exists between the borrower and the bank. They further argued that by having a relationship between bank and customer that had been developed over a longer time period this information asymmetry could be corrected for.

From these theoretical standpoints, it can be argued that the conclusions of the new generated theory have a foundation in previous research done on finance and its role in supporting farm growth.

5.2.4 Contribution of generated theory to the microfinance field

Previous microfinance theory has discussed whether it is a good tool to address poverty and more specifically support agriculture. This proposed theory makes suggestions on how it can be done when supporting coffee farmers. Starting with the flexible lending scheme this theory supports Weber & Musshoff's (2013) reasoning that in order for microfinance to succeed in an agricultural context more flexible lending schemes need to be developed. However, doing such a scheme can be costly since you have to do more individual screening of a person before lending the credit. As this presented theory states you can address this problem by first making the individual members co-guarantee each other. You can also bring in both agricultural experts and members that are part of the targeted communities in order to ease the screening process.

The proposed theory is disagreeing with Bateman & Chang's (2009) conclusion that microfinance is a hinder for poverty eradication. The empirical findings of this thesis point actually to the opposite that by being able to receive previously unavailable funds through microfinance the coffee farmers have actually been able to increase their productivity. However, it should be noted that, as mentioned previously, focusing too much on one production, in this case coffee, could increase farmer vulnerability. Bateman & Chang (2009) mentioned in their study that one of the reasons for why the dairy production in Bosnia faltered was due to rigid lending conditions of microfinance. As recommended in the analysis providing training in other agriculture productions can actually arguably help the coffee production. The reason for this is because the farmer is not majorly dependent on one crop for his yearly profits.

The report by Peck Christen et al. (2005) stated that in order for a MFI to succeed to borrow to agricultural firms they need to provide saving facilities. This suggestion is supported by the findings that have been made by this research. The farmers have, for example, noted a positive effect on their ability to handle money since they started to save.

This newly proposed theory supports another claim made by Peck Christen et al. (2005): That bringing in expertise to help farmers make investment decisions, in combination with giving access to microcredit, is a good combination. This claim is supported by the coffee farmers' statements that by receiving training they have noticed productivity increases on their trees.

However you can criticize this theory by saying that if you are using a qualitative approach can you really conclude that productivity has increased based on only subjective reasoning's. You can then argue that you cannot draw the conclusion that microfinance should be an integral part in supporting the coffee farmers to increase their productivity. However, the main aim of this thesis was not to find out if microfinance had been a success in terms of productivity increases. Its aim was to find points of improvement to increase its efficiency which was grounded in how the farmers felt about microfinance. Referring to Hulme (2000): if you want to improve existing practices in microfinance a subjective approach is more suitable. The arguments made from the generated theory has been supported by quantitative studies made on the subject. Thus it cannot be farfetched to state that the subjective reasoning's of the farmers regarding productivity increases are indeed supported by previous quantitative theories. An example of this is the conclusion that Brune et al. (2016) did in their quantitative study on farmers in Malawi. They found that if a farmer had the ability to save money at a financial institution it resulted in a positive impact on farm yield and subsequently positively influenced farm profit.

Using the empirical evidence as a counter-argument it can be discussed if the purely quantitative theories that have previously studied the phenomenon of microfinance have accounted for certain factors. Examples of factors in the empirical evidence of this thesis can be the failure of surrounding institutions and the effect that the level of individual education has on agricultural performance. Microfinance theory tends to, as mentioned in the literature review, focus on the outreach and sustainability of the loans in order to determine its success or failure (Gutiérrez-Nieto et al. 2007). This could mean that other underlying, but likewise as important, factors are ignored or not being discovered.

The statement made above can be supported by an example. If only say income as a parameter would be used as a determinant for success or failure of microfinance you be at risk of not discover the underlying context which affected the outcome. An example of this is the yield relationship that exists between pruning coffee trees and fertilizing which has been mentioned previously. As Van Rooyen et al. (2012) highlighted, one study done in Kenya could not conclude whether microfinance had been the main reason for why the income of said farmers improved. This proposed theory has in turn provided insight into what factors that can have affected said income. It has also provided insight into how they can be utilized together with microfinance in order to increase its effectiveness.

6 Conclusions

The aim of this thesis was to find out how Ugandan coffee farmers perceived the microfinance services provided to them suited their agricultural production. This was done in order to determine how the services could have been improved. By improving the services microfinance could reach a better fit when taking into account the special properties of agricultural-, and more specifically, coffee production. In accordance with the stated aim, this thesis had the research question:

How well do the Ugandan coffee farmers perceive that the microfinance services provided to them suit the nature of their agricultural activities?

The coffee farmers included in this study stated overall that the microfinance services fit well to their production both due to the lending scheme which was flexible in its repayments but also due to other factors. The empirical evidence led to the generation of a theory that outlined how microfinance can be utilized in Ugandan coffee farming. The theory proposed using *income structure related borrowing* together with three other inputs in order to increase its effectiveness. In this theory, the three other main inputs were *provision of saving facilities, financial and agricultural training* and lastly *network extension*. The study also confirmed previous theoretical standpoints, that microfinance aimed at agriculture needs to be more flexible in its repayment structure in order for it to perform well.

Through the use of microfinance the empirical problem of financial constraint, which exists in Ugandan coffee farming as of 2019, can arguably be accounted for. However, in order to improve its efficiency in increasing coffee productivity in Uganda, the other three aforementioned inputs need to be a part of the package. Through the increase in coffee productivity, the income of smallholder farmer households in Uganda can be improved. In the long run, this resulting improvement in productivity could lead to that more farmers in Uganda are being elevated out of poverty.

6.1 Limitations for research

This research hasn't included farmers that have not had any access to microfinance but have had the other inputs available to them that is financial and agricultural training, saving facilities or network extension. By including this group of farmers this research had might been able to more specifically determine the level of importance that microfinance has when supporting coffee farmers.

Another limitation for this thesis is that it hasn't used any quantitative data to determine whether the productivity has increased for the farmers or not and by how much. The conclusion that productivity has been improved has only been based on the coffee farmers' subjective point of view. They could have, for example, overestimated its positive effects on their production and even if it has indeed improved it could have only been improved marginally. By including a quantitative method this research could have achieved a stronger triangulation for its conclusions.

There exist a limitation in the fact that this research has not included farmers who have used standardized microfinance when borrowing credit for investments. By including said farmers

one could have had compared the different lending structures to see what the farmers felt the most positive about and why. With this inclusion one could more accurately determine which structure better fits, according to the coffee farmers, to the nature of their production thus increasing the thesis overall authenticity.

There can be a limitation regarding that the cooperative is member based and member funded. This might increase the willingness to repay back the loan since, as the farmers have stated, they know the people they have borrowed from. This might lead to that the results of this thesis is non-transferable to a non-cooperative context.

6.2 Recommendations for further research

A recommendation for further research can be to investigate how surrounding institutions can have a positive/negative effect on the effectiveness of microfinance. In this research it has been briefly touched upon but more extensive research on this subject specifically can arguably increase the understanding of microfinance as a phenomenon.

A limitation for this research which can, in turn, be a recommendation for further research is to compare farmers that have received the other inputs without borrowing credit for production investments. Through comparisons one can determine and perhaps rank the level of importance microfinance has when it comes to supporting coffee farming in developing countries.

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Appendixes

Appendix 1: Interview guide when interviewing the coffee farmers

Questionnaire for farmers

Personal questions

1. What is your name?
2. How old are you?
3. How large is your farm?
4. What is the primary production on your farm for example maize, cassava, pigs etc?
5. What are your primary motives for having agricultural production?
6. What is your level of education?

Questions aimed for microfinance impact and its relevance to agriculture

7. For how long have you used some sort of Microfinance service?
8. 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?
9. How are you paying back the loan today? Same sum of money every month and do you have to start to repay the loan immediately or do you have a so called grace period where you don't have to pay back the loan?
10. Is there anything that you would like to change in microfinance services provided to you which will to make you more inclined to invest in your coffee/agricultural production?
11. How do you receive the credit and how do you make the repayments? Using mobile phone, bank visits or through some other channel? Specify which one. Are you satisfied with the channel used? Why/why not?
12. Does the MFI that you are borrowing from provide other services such as education or any form of Agricultural training and weather insurance? If no what services would you prefer and why? If yes what effects have you seen on your production?
13. 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?
14. Would you recommend anyone to take up microfinance to boost their coffee/agriculture production? If yes why /if not then why?

Appendix 2: Guide on how the categories were developed from the concepts

Name of farmer	**Citation, opinion or statement**
Francis	• He states that he after he received the agricultural training knows how to arrange his coffee trees. • He has noticed a higher yield of his trees than before.
Sauda	• She believes that she has received better knowledge as a result of these courses that the Sacco has offered to her.
Peter	• He says that he has learned how to prune his coffee trees • He only harvest the ripe coffee beans.
Daniel	• The agricultural training that he has received in combination with the borrowing has improved his agricultural practices.
Edward	• *"If you want a loan they (Sacco) teach you good investment practices"*
Joseph	• I use the land differently (after receiving the agricultural training). He says that the training that he have received have boosted his production.
Group discussion	• The farmers say that the training that they have received from the Sacco has helped them get a better output from their coffee production.

These citations form the foundation that education has played an impact in the success of microfinance for the farmers. They now know how to allocate their available resources in a more efficient manner and they have been able to increase their productivity. Thus, the category "**The microfinance and training combination"** will be developed to explain why the coffee farmers perceive microfinance has been successful to them.

Name of farmer	**Citation, opinion or statement**
Edward	• Tried to borrow from other sources: *"In the end they [friends & banks] would just say sorry my friend I don't have the money for you"*
Peter	• Says that he wouldn't receive the finance from commercial banks
Group discussion	• Microfinance has helped them to get credit for their investments
Sauda	• She have used money in combination with the money from a coffee harvest to buy more land for her farm.
Joseph	• Says that he wouldn't be able to receive this money he has used in his production from banks.
Daniel	• Microfinance is user friendly. • I have used the money to buy higher quality seedlings.
Francis	• He states that by recivning credit from the Sacco he was able to buy fertilizers which resulted in that his productivity expanded. He couldn't afford fertilizers before.

From these statements it can be said that the farmers have been credit constrained before which has hindered them to make investments in order to expand their production. Example of expanding their production is the ability to use better technology such as seedlings of higher quality. Hence another category that has been developed from the empirical material is "**How microfinance can be used to facilitate productivity in coffee production".**

Appendix 3: GDPR Document

Department of Economics
[Any additional text, e.g. the name of the author]

DOCUMENT TYPE (IF NEEDED) SLU ID: SLU.[Enter the registry number here]

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We will collect the following data about you:

Your own personal reasoning's behind investing or not investing in your coffee production when using microfinance services and your personal opinion on how well microfinance relates to your coffee production. Your level of education, age, gender, size of your farm, primary motives will also be collected. Some details of your surrounding environment will also be collected for this purpose.

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Name in block letters