

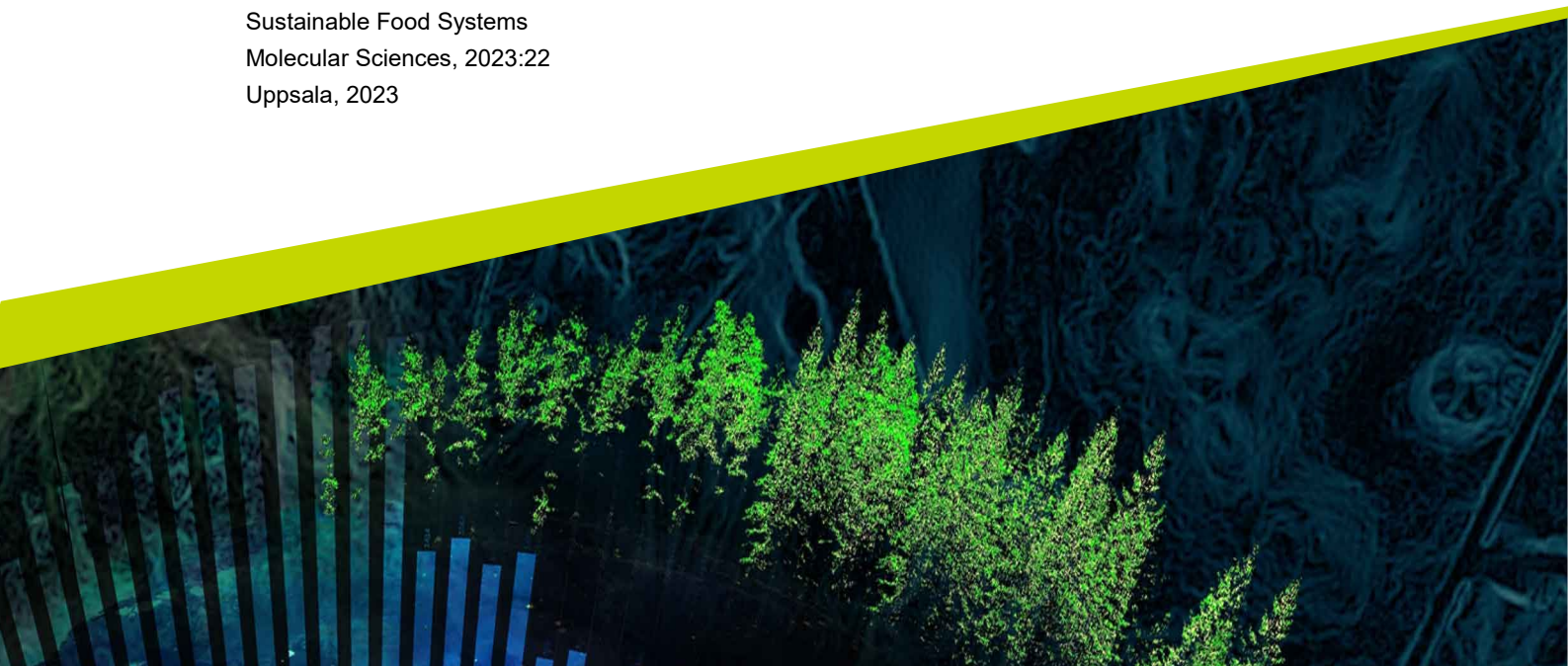


Accessing credit through social relationships

A case study of cassava farmers in Central Uganda

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Abstract

The FAO aims to support local farmers in Nakasongola District, Uganda, to tap into value-added cassava market opportunities. This thesis critically examines farmers' experiences in these cassava markets, challenging classical economic assumptions that underpin the FAO project. It specifically focuses on the regulation of credit access in cassava markets, as it significantly affects farmers' and traders' terms of inclusion in agricultural markets. To gain a comprehensive understanding, a five-week qualitative case study was conducted in a sub-county of Nakasongola, using semi-structured interviews as the primary data collection method. The study reveals that farmers' decision-making is guided by a Chaynovian concept of "moral economy" rather than profit maximization principles of the market. The study shows that informal social institutions based on trust, reciprocity, and reputation play a crucial role in the farmers' lives. This includes informal credit institutions that are governed by similar mechanisms where access is based on social relationships including trust, friendship, and reputation. Therefore, social relationships become essential for farmers to meet their reproduction needs. The study implies that to ensure the success of future development projects, it is crucial to understand the local context and how existing institutions will shape the introduction of new ones, a concept known as institutional bricolage. This thesis provides an in-depth empirical example of how real agricultural market function and the reasoning of actors within these markets. In addition, the study has contributed to the theoretical discussion of agrarian change, and extends the theory of access by Ribot & Peluso by applying it to credit relations.

Keywords: credit, access, agricultural market systems, value chain, moral economy, institutional bricolage

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Abbreviations

| | |
|--------|---|
| FAO | Food and Agriculture Organization |
| M4P | Making markets work for the poor |
| NADIFA | Nakasongola District Farmers Association |
| SACCO | Semi-formal institutions include microfinance institution |
| SMAE | Small and medium enterprises |
| UGX | Ugandan Shilling |
| VSLA | Village Savings and Loan Associations |

1. Introduction

The relationship between agriculture and capitalist markets has been a much-debated topic throughout the history of social sciences, at least since the in-depth inquiries into the topic made by Karl Marx (Tucker, 1978). More recent scholarly work has taken an interest in economies that are largely based on sustenance agriculture but are also market dependent. They highlight questions of how agricultural markets function and the processes of agrarian change. Researchers have recognized a need to conceptualize the economy and market relations of farmers with a focus on the real complexity of markets and the different rationales that motivate farmers (e.g., Ali Jan & Harriss-White 2012; van der Ploeg 2013; Scott 1977; Larsson et al. 2022). A matter that is closely interrelated with this is the topic of credit as it has been found to significantly affect farmers' and traders' terms of inclusion in agricultural markets (eg. Ali Jan & Harriss-White 2012; Minoia et al. 2015). In addition, credit can provide capital investments for the development of agriculture. As such the role of credit and its part in driving agrarian transitions is an important part of the discussion on the relation between agriculture and markets.

My study departs from and positions itself in this discussion. The answers to these questions are crucial for determining what methods and policies can be useful to deploy by states and development agencies. One such organization is the Food and Agriculture Organization (FAO). The FAO designs and implements projects in several countries with a focus on increased agricultural productivity, improved nutrition, and economic growth (FAO 2014). An example of such a project is one that the FAO is initiating for the development of cassava value chains in rural Uganda. By interviewing Ugandan farmers through FAOs implementing partner this thesis investigates the crop production and market with a focus on credit relations and the farmers' experiences of the credit markets.

1.1 The FAO approach

The FAO has developed a handbook and framework for the sustainable development of food value chains (FAO 2014). In this handbook, FAO departs from the premise that food insecurity is a symptom of poverty. Lifting people out of poverty will in turn create an effective demand for food increasing the supply,

lowering prices of food, and combating food insecurity. By encouraging a percentage of the farmers (10–30%) to become more competitive by scaling up their production, acquiring larger farms, and specialising their enterprises, food production will become more efficient, and the food will become cheaper to produce (FAO 2014). To reach this goal, development projects should help target-farmers to, for example, invest in technologies, receive formal credit for investments, and get more adequate price information so that they can be more competitive in the “market” (FAO 2014). The idea is based on the agrarian transition model by Timmer (1988), where it is believed that countries can move through similar stages of growth that the Western world did in the 1930s. This idea ignores the fact that the circumstances of today’s agriculturally based countries are very different from those of previous transitions (Pain 2014). The idea that surplus agricultural labour will find decent work outside the agricultural sector is challenged by empirical studies in Sub-Saharan Africa and India (Pain 2014).

The FAO assumption that market solutions automatically will result in better conditions for poor people is also questionable. The spread of a market economy has led to increased standards of living for some parts of the population but at the same time, there has been an increase in inequality within countries (The Springfield Centre 2009). In addition, there is evidence that markets in many places of the world are governed by informal institutions where access to markets is socially regulated, limiting farmers' ability to participate in markets on equal terms (e.g., Ali Jan & Harriss-White 2012; Minoia et al. 2015; Gerber 2013). There is also evidence that in some areas that have been integrated into market economies, small farms persist, forcing us to question the assumption that increased commercialisation will lead to larger, specialised farms and an exit of small farmers (White 2018; Pain 2023).

In the FAO handbook for the sustainable development of food value chains, the market is seen as an autonomously functioning mechanism. Their models are built on the assumption that rational consumers make choices and that the effects of these choices flow down to producers. This provides an ultimate medium for fair price setting and the expression of individual choice through mechanisms of supply and demand. It is also argued that consumers will consider social and environmental impacts pressuring producers to address such issues. However, studies show that choices consumers make about food are complex, involving a range of personal, cultural, or purely habitual factors (Sobal & Bisogni 2009).

1.2 Agricultural markets and institutions

Understanding how real, rather than abstract, rural markets function, through empirical observation, is vital for market development support that will benefit the poor and reduce inequality (Ali Jan & Harriss-White 2012). Empirical studies find

that markets are fractured with many levels of traders who collude over prices in combination with other rent-seeking practices (e.g., Ali Jan & Harriss-White 2012; Minoia et al. 2015; Gerber 2013). This collusion means that price competition is limited in these contexts and the farmer's choices are few adding an element of compulsion to their participation in commodity markets.

Another important aspect to consider in designing better market models is that markets exist within institutional frameworks and are shaped also by non-market institutions.¹ The role of informal institutions is ignored in the FAO model (FAO 2014) even though their importance within commodity markets has been found in many studies (e.g., Ali Jan & Harriss-White 2012; Minoia et al. 2015). Studies have shown that within rural societies a mixture of institutions ranging from formal to informal coexists to shape the preconditions for the market. These institutions can persist side by side, while also having a mutual influence on each other, their functioning strongly dependent on the existing context (Pain 2018). When approaches do not consider the specific context and the dynamics of the current institutions the results of introducing new institutions such as credit institutions will most likely be unsuccessful or result in new hybrid institutions that do not function as intended (e.g., Pain 2018). Processes such as these where new and old institutions converge and influence each other are also known as institutional “bricolage” (Cleaver 2013).

1.3 The importance of credit in agricultural markets

In FAO's vision of development, credit serves a crucial role in providing capital to invest in the development of agriculture through an increase in farm sizes, yields, and efficiency of production. However, many small-scale farmers in the global south use credit for consumption smoothing due to the seasonality of farming and food production (Gerber 2015). There are examples throughout the global south of farmers entering into informal “interlocking contracts” where they receive cash, food, or inputs in advance on the condition that they later pay back in. Providers of credit are often traders who in turn may receive credit from higher-level traders, making the entire production, buying, and selling of a crop completely dependent on informal credit kind (e.g., Ali Jan & Harriss-White 2012; Minoia et al. 2015; Gerber 2013). The role of credit in agricultural markets is therefore much more complex than the FAO assumes. The ability and terms of farmers' and traders' access to credit are therefore important in setting the terms of inclusion in agricultural markets and merit further investigation. In addition, the nature of access to credit within agricultural markets and its broader economic, behavioural, and

¹ Institutions are in this thesis defined as: “arrangements between people which are reproduced and regularized across time and space and which are subject to constant processes of evolution and change” (Cleaver 2013, 8)

social-environmental consequences is an important question that is central to understanding current and future agricultural markets (Gerber 2014).

1.4 Research focus and purpose

As outlined above there are different views of how agricultural markets function. This study positions itself within a research discourse that takes a critical stance on mainstream economics and aims to contribute to a better understanding of agricultural markets to combat the “relative dearth of studies of ‘real markets’ in general, and of real agricultural markets in particular” (Ali Jan & Harriss-White 2012, 39). Within the discussion on “real markets” the importance of credit has been addressed. These questions of credit access and the role of credit in agrarian transitions are understudied and the real-life use of credit and its effects within rural societies needs further exploration (Gerber 2015). These debates have implications for the practical question of what can be done so that farmers can increase their returns from these agricultural markets and, in turn, increase their standard of living. This thesis will contribute to this debate by investigating credit relations within cassava markets and how access is granted to these. The thesis provides an in-depth empirical example of the farmers' experience within the cassava market in rural Uganda.

This study aims to provide a deeper understanding of cassava markets in the Lwabyata sub-county in Nakasongola District, in Uganda, East Africa, with a focus on how access to markets is regulated, particularly through credit. To reach this aim a case study, relying mainly on semi-structured interviews with farmers and traders will be conducted in the aforementioned area. Five research questions have been developed to investigate the aim:

1. *Why and how do farmers engage in cassava markets and what are the constraints to increasing profits and return on investments within the market?*
2. *What informal and formal credit relations do cassava farmers engage in and why do they engage in them?*
3. *Who are the traders in the cassava value chain in the Lwabyata sub-county and how are they connected to each other and other traders?*
4. *What choices do farmers have between the different credit options and in what ways are they constrained by the terms and conditions of the different options?*
5. *How is access to credit for both traders and farmers regulated?*

1.5 Structure of thesis

Following this introductory chapter, *Section 2 – Theory, concepts, and previous research* will introduce different definitions and theories on markets, and systems, the concept of access and theories and previous research on rural credit. *Section 3 - Methods* will describe and discuss the methods used to conduct the fieldwork. *Section 4 – Setting the scene* will present a background to the case describing the geographical area, cassava, specific forms of credit and the FAO project in Nakasongola. *Section 5 - Findings* will provide the main findings of the case study, divided into three sections: 1) how farmers grow cassava, 2) farmers' engagement in cassava markets and credit relations and, 3) cassava traders and their engagement in cassava markets and credit relations. *Section 6 – Discussion and conclusion* presents a discussion on farmers' experiences and rationales within the cassava markets, how access to credit is regulated within the cassava market and possible implications for the FAO project.

2. Theory, concepts, and previous research

2.1 Value chains, markets, and systems

There is a large amount of literature on value chains, stemming from many different fields of research (Bair 2008). In this study, the use of the term “value chain” will mainly be used when discussing the FAO approach and project, and the definition of a food value chain, will therefore be in line with their definition: “all the stakeholders who participate in the coordinated production and value-adding activities that are needed to make food products.” (FAO 2023).

Some researchers, and some development approaches, it has been suggested that the term “market system” is a more fitting term to describe agricultural markets and convey their complexity. One example of a development approach that uses the term is the M4P (Making markets work for the poor) approach. They define a market system as a “multi-function, multi-player arrangement comprising the core function of exchange by which goods and services are delivered and the supporting functions and rules which are performed and shaped by a variety of market players.” (The Springfield Centre 2015, 3). Ali Jan & Harriss-White (2012) also discuss markets in terms of “systems” and developed a theoretical framework showing that markets are complex systems performing more functions than mere efficiency. In short, they argue that to see markets as systems one must identify its “structure (and elements) and its relations (and flows)” (Ali Jan & Harriss-White, 47). Agricultural market systems contain a large range of types of firms that coexist and continue to do so. Power within the market system (and through that access, which will be further discussed in section 2.2) can come from informal and formal market institutions but also through social or cultural institutions (Ali Jan & Harriss-White). I draw on this perspective in focusing on both formal and informal elements within the cassava markets and the relations between them.

In this study, when the word “market” is used it is defined as a place where there is an exchange of goods and/or services. It does not necessarily describe the physical place where the good or service is sold but the pathway that the cassava takes. Examples of two different cassava “markets” are: selling the cassava directly to a consumer or to selling it to a trader.

The motivations and forces that make producers act the way they do is another point of discussion important for understanding how markets function. Profit maximisation, on the part of the producer, is assumed, within neoclassical economics, to be the main driver of the actions of the farmer. This assumption has been questioned by theorists such as Chayanov and Scott who argue that many farmers who live on few resources and are, at least partly, subsistence farmers rather practice a type of “moral economy” (van der Ploeg 2013; Scott 1977). Scott (1977) argues that because the farmer constantly lives on the margins, his survival being his main goal, he adopts strategies based on risk minimisation as compared to profit maximisation. The farmer operates in a way that he can minimise risk and meet household reproduction needs. According to van der Ploeg (2013) Chayanov reasons that peasants are a part of the capitalist system but at the same time they do not operate as a capitalist farm enterprise. There are several reasons for this, one being the need for risk minimisation as just described, another being that labour is not wage labour, but family labour and that the farmer’s capital is not capital in the Marxist sense. Capital for a farmer may be his tools, buildings, and animals but they do not produce surplus value. In addition, the farmer's actions are not solely based on the logic of the market but also by nature, society, and cultural repertoires (van der Ploeg 2013), considerations that have been drawn on in this study.

2.2 Access

Access is a key analytical concept in this thesis. To begin with, it is important to distinguish access, in the form of physical access, from the concept of access. If, for example, there is no one who provides credit or loans, then one cannot physically access it. This seems to be in line with how access is viewed in the FAO project on cassava. But access is more than just physical access (although it could include physical barriers as well). For example, if someone claims that they are not granted access to a boardroom meeting in their company, it is most likely not because the door to the meeting is locked but because of rules, or maybe their boss denies them permission to be there. In this thesis, the word access will be used according to the second example, as a concept.

Ribot & Peluso’s theory of access (2003) provides the foundation for how the concept of access is used in this paper. They define access as “the ability to benefit from things—including material objects, persons, institutions, and symbols” (153). The choice to use the word “ability” as opposed to “right” is active as this moves the focus from only property relations to also include how social relationships can shape how people benefit from resources. Ability is in this sense like the concept of power which they see as “the capacity of some actors to affect the practices and ideas of others” (156) and as emergent from people.

According to Ribot & Peluso (2003), access is mediated by bundles and webs of power. The strands in these bundles and webs consist of means, processes, and relations through which people can gain, maintain, and control access. Gaining access is the process whereby access is established. Control and maintenance of access are more complex and complementary. To control access is to be able to mediate other people's access. Maintaining access is the process of keeping access open through the person who controls access, this is often done by transferring some benefits to the person who controls the access. This also means that a person maintaining access to a resource may benefit from access without having rights over it. It also means that a person maintaining access may be in a dominant position to others while still being subordinate to the person controlling access. This makes the nature of control and maintenance to access fragmented making it difficult to divide people into clear groups or classes.

One reason for drawing on the concept of access is that Ribot & Peluso (2003) specifically aimed to facilitate "grounded analyses of who actually benefits from things and through what processes they are able to do so" (154). In doing so they have provided a framework to support empirical work where the focus is on 1) who does or does not benefit, 2) what they benefit from, 3) in what ways they benefit from it, and 4) under which circumstances.

Ribot & Peluso (2003) also provide a set of categories that can guide the mapping of the mechanisms (of means, processes, and relations) that mediate access. There are two main categories: rights-based (including illegal access) and structural and relational mechanisms which include markets, labour, knowledge, technology, capital, identities, authority, and social relations. These categories can be used as a starting point for mapping out mechanisms that shape access, however, it is important to be attentive to other possible mechanisms since power structures may vary over time and space. According to Ribot & Peluso (2003,) access analysis includes 1) the identification and mapping out of certain benefits, 2) the identification of the mechanisms different actors use to gain, control and maintain access, and 3) an analysis of the power relations that underly these mechanisms. Completing an access analysis of credit, to its full extent, is a massive undertaking that was not possible in this study, however, the steps outlined by Ribot & Peluso (2003) have inspired this study and will at least be partially completed. One limitation is that the study is contained to Lwabyata sub-county so a full mapping of actors and benefits was not possible. However, the benefits related to credit access within Lwabyata sub-county were identified and mapped out among the respondents. The four questions outlined above regarding who benefits from what under which circumstances were investigated. Regarding the second step mechanisms among both interviewed farmers and traders to gain, control, and maintain access were identified. The underlying power relations are not explicitly

discussed however it is clear that the ability to control and grant access to resources is a form of power structure, which is discussed.

2.3 Rural credit – theory and previous research

The societal effects of credit and debt have been surprisingly undertheorized considering the long history of credit and its widespread use (Gerber 2014). Nonetheless, there is literature discussing the broader implications of rural credit and debt, and these can be divided into four theoretical strands. Gerber (2014) calls these stagnationists, formalists, culturalists, and Marxist. The ‘stagnationists’ highlight how rural debt drives poverty and produces stagnation while ‘formalists’ focus on the improvements in production that stem from the use of credit in rural settings, associated with an entrepreneurial spirit. ‘Culturalists’ emphasise how rural credit contributes to a shift from an economy based on local cultural values (a ‘moral economy’) to a more impersonal, larger-scale economy. The Marxist strand acknowledges the shift discussed by ‘culturalists’ but mainly focuses on the role that rural credit and debt have in restructuring the economy through social differentiation and exploitation (Gerber 2014).

Gerber (2014) combines parts of these four theoretical strands to present four theses on the role of credit and debt in the evolution of capitalism to argue that rural credit and debt contribute to, and have in some ways been essential for, the historical and continued spread of capitalism. In summary, his argument is as follows. The first thesis is that “indebtedness restructures ownership relations” (732). Due to indebtedness some will lose their property, such as land, to creditors and the ownership relationships will thus be restructured. Included in this is how indebtedness also can lead to forms of labour control. The second thesis, that “indebtedness shapes capitalist rationality and culture” (736) discusses how the pressures of loan repayments and the fear of legal ramifications (or a bad reputation) ha, and continues to, foster capitalist rationality and culture. First of it forces people to engage in activities that generate cash, in a farmer’s case, cash crops. Due to interest rates a surplus must be generated from the loan and due to the fear of ramifications debtors are motivated to work harder to produce a surplus. To be able to meet these demands the debtor must focus on economic rationalisation such as focusing on benefit evaluations, current market prices, and prioritising short-term benefits. Gerber’s (2014) third thesis is that “indebtedness undermines community and the environment” (739). This thesis is in line with the ‘culturalist’ strand that credit pushes traditional bonds within a community to be exchanged with more individualised, large-scale modes of exchange. In addition, Gerber (2014) argues that short-term thinking that tends to accompany economic rationalisation and the purchase of unsustainable technology has negative effects for environment. In the fourth thesis, that “indebtedness is a motor behind the evolution of capitalism”

(741), Gerber suggests that credit/debt relations act as a form of natural selection within the capitalist society. In essence, people that can adopt the rationality necessary to be successful within the capitalist economy will be able to benefit and become richer through the use of credit while others will become dispossessed. In addition, Gerber argues that creditors will most likely lend money to those that show signs of becoming promising capitalists while the rest will be left behind.

3. Methods

3.1 The Case study

The case study was conducted in Lwabyata, Nakasongola during the full month of March 2023. I started by reading through secondary literature, both topic-specific and theoretical. This formed a base for the case study and influenced the interview guides. For example, literature by van der Ploeg (2014) inspired me to ask questions concerning the whole household and not just the farmer since, for example, family labour may play an important part in food production for smallholder farmers. Even though my initial readings shaped my thinking, the study itself was empirical and inductive in nature rather than deductive. I first wanted to talk to and learn from informants and then draw on relevant theoretical frameworks to interpret the observations and findings. The methods employed were inspired by ethnographic approaches, as these are well suited to exploring social and cultural contexts, structures, and processes of societies and groups (Creswell & Creswell 2018). Participant observations are one such method and although these were only a small part of the method, they did provide me with a better understanding of the context. I was able to observe practices and ask questions that may not have occurred to me otherwise. Gaining insights into the culture and behaviour of interviewed farmers and traders was an important part of getting a more well-rounded understanding of the informant's reasoning and experiences.

A case study approach was chosen because it is suited for studying processes and activities specific to a certain time and place (Creswell & Creswell 2018). It is also useful when studying social and cultural processes within a certain setting (Desai & Potter 2006). A case study allows for the use of a combination of methods such as interviews and observations and the review of different types of evidence such as documents or artefacts, illuminating a case from different vantage points (Robson & McCartan 2016).

A case study cannot lead to statistical generalisations. Therefore, I cannot make statements about how rare or common certain phenomena are. I can however generalise between my case and other cases. If, for example, a phenomenon that I observe, is comparable to a similar phenomenon among cocoa farmers in Brazil, I cannot establish actual validity, but it can serve as a form of triangulation,

suggesting an increased likelihood and probability of the type of phenomenon occurring (Lund 2014). A case can also contribute to a continuing theoretical proposition (Desai & Potter 2006). By using abstract concepts to interpret empirical events one may be able to say something about similar dynamics in other contexts or even question the concepts themselves. For example, I use the concept of “access” and look for qualities or properties that facilitate access. These qualities or properties may be consistent with a certain theory, therefore contributing to that theoretical proposition of what inherent qualities or properties facilitate access (Lund 2014).

3.2 Semi-structured interviews

Face-to-face, semi-structured interviews were chosen as the main form of data collection for this study. Since the study was intended to investigate the perceptions of smallholder farmers about access to credit, structured interviews or questionnaires would have been inappropriate as they would have locked the respondent into pre-defined lines of thought or reasoning (Robson & McCartan 2016). Participation in input and output markets for smallholder farmers involves decisions that are based on many factors that are also tied to geographical and cultural features. Semi-structured interviews are good for providing a deeper understanding of a phenomenon, especially in areas such as this that involve complex decision-making on the part of the respondent (Desai & Potter 2006).

The interviews were organised through Nakasongola District Farmers Association (NADIFA) which has a large network of farmers active in Cassava production. The organisation is well known among farmers in the district and the respondents seemed to have a high level of trust in the staff. The coordinator of NADIFA acted as a translator and field guide during the interviews which had several benefits. The coordinator was knowledgeable of the local area and community and many farmers and people in the area knew who they were and therefore trusted them. Possible disadvantages could be that NADIFA was connected to aid organisations and therefore created certain expectations, this will be discussed more under “methodological obstacles”. Due to their ability to disburse funds it is likely that staff at NADIFA had a certain power position and this may have made farmers and traders less willing to share negative or what they consider to be embarrassing information.

Most of the interviews were one-on-one but during some both the husband and wife were present and sometimes other family members joined. In most instances, nonfamily members were asked to not sit in on the interview as questions about family incomes and loans may be somewhat sensitive. In some cases, it was not appropriate to ask the people to leave as this may have been rude or created the belief that we had something to hide. Since the field guide was better at reading the

social cues within the different settings the field guide was left to decide when it was possible to ask others to leave the interview.

3.3 Demarcations

Six of the 8 sub-counties in Nakasongola were chosen by FAO to implement the project in. These were deemed to have the most drought-vulnerable populations and the greatest level of cassava production. The sub-counties are Lwampanga, Lwabyata, Nabiswera, Wabinyonyi, Nakitoma, and Kalungi. After consultation with the field guide Lwabyata sub-county was chosen for this case study. Many farmers in Lwabyata sub-county grow cassava, it has sandy soils which favours cassava, and it was close to Nakasongola town reducing travel time.

As the study aimed mainly to investigate how farmers experienced cassava input and output markets, they were the main respondents. Traders were also interviewed as they work closely with farmers and have an important role in the informal credit system. Some other actors in the value chain such as millers and an input supplier were interviewed. Other actors that operate in Lwabyata and interact with cassava farmers such as government officials or consumers were not interviewed due to time constraints.

3.4 Respondents and sampling

3.4.1 Farmers

This study used a purposive sampling combined with respondent driven sampling. A purposive sampling is a non-probability method for choosing informants where the researchers choose informants based on criteria that may be relevant to the research question. Such a method is appropriate for an in-depth case study as it allows for the selection of respondents that are likely to be able to provide relevant information on the research subject (Robson & McCartan 2016).

The main criteria for selecting farmers to interview was that they grew cassava. Apart from that I aimed to include a spread of male and female farmers of different ages, education levels, and with different land holding sizes. Previous studies in Uganda have shown that these factors influence access to agricultural inputs such as credit and land (Johnson & Nino-Zarazua 2011; Mpuga 2004; Sebagala et al. 2019). To be able to provide an understanding of farmers' experiences within cassava input and output markets it was desirable to include respondents with a variety of these characteristics. In addition, the intention was to be able to compare groups, such as farmers with different landholding sizes, to understand both differences and similarities within them.

Income level is another factor that is recognized in previous research to effect access to both input and output markets in Uganda (Johnson & Nino-Zarazua 2011; Mpuga 2004; Sebaggala et al. 2019). As many farmers partly rely on family labour and consume a lot of the food they produce, it is difficult to assess the income level of the household. The size of the farmed land is one important indicator although a household with very little land may still have livestock assets, or other businesses that provides income. In addition, the number and ages of household members have an impact on both how many people need to live off the available resources and how many people can provide labour thereby affecting the household economy.

Thirty-four farmers were interviewed during the case study. 18 were women and 16 were men. The ages varied between 22 to 87 years and the education level from no education at all to respondents who had completed senior five. The farmers had between two and 50 acres of land. Table 1 gives an overview of all farmers and their gender (Male=M, Female=F), age, education level, and the size of the land they farm. If the education level was not noted, the cell is left blank. In some interviews, there was more than one person present who would at times chip in. This can be seen in the gender column as the main respondent's gender will be noted first and the secondary respondent's gender is noted in brackets. Two respondents did not know the size of their land in acres but discussions with the field guide afterwards suggested that the size of the land was not likely to be more than five acres. Some farmers answered, for example, "more than 20 acres", and 20+ is then written in the table.

Table 1. List of interviewed farmers including demographic attributes and landholding size.

| Farmer | Plot size acre | Gender | Age | Education² |
|---------------|-----------------------|---------------|------------|------------------------------|
| F1 | 15 | M | 40 | Senior 4 |
| F2 | 50 | M | 67 | Senior 5 |
| F3 | 20 | F | 49 | Primary 7 |
| F4 | 7 | F | 40 | Primary 3 |
| F5 | 6 | M | 36 | Primary 7 |
| F6 | 5 | M | 30 | Primary 7 |
| F7 | 23 | F | 46 | Senior 4 |
| F8 | 50 | F | 60 | Primary 7 |
| F9 | 10 | M | 42 | Senior 2 |
| F10 | 21 | M | 57 | Primary 7 |
| F11 | 40 | M | 53 | Senior 5 |
| F12 | 7 | M (F) | 87 (?) | |
| F13 | 7 | F | 40 | Primary 7 |
| F14 | 40 | M | 68 | Senior 4 |
| F15 | 2 | F | 23 | Senior 3 |

² In Uganda you first attend Primary 1-7 followed by Senior 1-6. Primary 1 is usually began when you are 7 years.

| | | | | |
|-----|-----------------|-------|---------|-----------|
| F16 | 1,5 | F | 68 | Primary 2 |
| F17 | 2 | M | 27 | Primary 7 |
| F18 | 6,5 | F | 38 | None |
| F19 | 20+ | M | 62 | Primary 7 |
| F20 | 5 | M | 54 | Senior 3 |
| F21 | 16 | F | 47 | Primary 7 |
| F22 | 6 | F | 53 | Senior 2 |
| F23 | 10+ | F | 50 | Primary 4 |
| F24 | 27 | M | 50 | Senior 4 |
| F25 | 23 | M | 22 | Primary 7 |
| F26 | 5 | F | 52 | Primary 7 |
| F27 | 13 | F | 32 | Senior 4 |
| F28 | 5 | M | 31 | Senior 2 |
| F29 | 50 | F | 60 | Primary 7 |
| F30 | 5 | F | 38 | Primary 5 |
| F31 | 5 (not certain) | F | 52 | Primary 7 |
| F32 | 4 | F | 55 | Primary 3 |
| F33 | 4 | M (F) | 61 (60) | |
| F34 | 5 (not certain) | F | 32 | Primary 5 |

All farmers are not discussed in detail in the findings. Rather the informants have been subdivided into three groups based on landholding size and examples from these groups will be presented. As mentioned, landholding size can be an indicator of income level and previous research has identified it as an important factor when it comes to credit access (Mpuga 2004; Sebagala et al. 2019). The first group is farmers with five acres or less, the second is farmers with six-19 acres of land and the third is farmers with 20-50 acres. For the sake of simplicity these respective groups will be called, small farmers, medium farmers, and large farmers (although in a global context none of these farmers are likely to be considered “large”). Out of the interviewed farmers, 12 are small, 11 are medium, and 11 are large.

There are a variety of ways in which one could have grouped the farmers. The main reason for choosing to have one group with farmers with less than five acres is that the definition of “smallholder”, a commonly used term, according to FAO is a farmer with under two hectares of land which corresponds to about five acres of land (Andrade 2016). It was therefore interesting to see if there were clear differences between this group of farmers and others in terms of their access to credit. The reason dividing the medium and large farmers at the 20-acre threshold was twofold. One is merely practical, that it would provide an even number of farmers between the groups (i.e grouping by tercile). The second was that when talking to one farmer he referred to farmers that grew crops on “*huge acres of land*” (F17) and when I asked what he considered to be huge he replied, “*20 acres plus*”.

The selected farmers are anonymised and their interviews described in more detail to make the data more approachable. The examples presented in detail were

chosen because they were well spoken, because they explained experiences that were found in many of the other interviews or because they described experiences that were especially interesting or in contrast to others. Both differences and similarities within the groups will be presented. Gender has not been a main analytical feature in this study. But gender is of course central to social structures of power and important differences between male and female farmer’s experiences will be discussed.

3.4.2 Traders

Both a purposive and respondent driven sample method was used for the traders as well. Since NADIFA did not have an established network of traders, in the same way that they had with farmers, the sampling of traders was more respondent driven, i.e., they were identified in dialogue with the interviewed farmers and other traders. The main criteria were that the traders should deal in Cassava. After the interview with the first trader, it became apparent that there were traders that mainly operated within Lwabyata and did not have their own storage and that there were traders who had storage and would sell dried cassava chips to bigger cities such as Kampala and Luwero (although the division was not always clear cut). The interviewed traders will be divided into “small” and “medium” traders. Medium traders would also receive credit from traders outside Lwabyata, whereas small traders only received credit from medium traders. The traders had a similar education level and were between the ages of 16 to 38 as show in Table 2. As can be seen in the table all traders were male, this is discussed further in findings.

Table 2. Summary of interviewed traders including demographic attributes “type” referring partly to geographical reach of the trader.

| Trader | Gender | Age | Education level | Type |
|---------------|---------------|------------|------------------------|-------------|
| T1 | M | 33 | Senior 4 | Medium |
| T2 | M | 37 | Senior 4 | Medium |
| T3 | M | 29 | Senior 4 | Medium |
| T4 | M | 38 | Primary 7 | Medium |
| T5 | M | 29 | Senior 4 | Small |
| T6 | M | 28 | Senior 4 | Small |
| T7 | M | 16 | Primary 7 | Small |

3.4.3 Other informants

In addition to farmers and traders, interviews were also held with other people who were connected to the farmers and cassava trade. These included two women traders who sold Cassava tubers in Nakasongola town, one agro-input dealer in Nalukonge, a trading centre in Lwabyata, one miller also from Nalukonge and one miller from Nakasongola town. The Nalukonge miller also traded in cassava chips. An interview was conducted at the Pura factory, a starch producing factory in a

neighbouring sub-county as some Lwabyata farmers sold cassava there. The interview was held with the general manager, the HR representative, and an “out grower”, an agronomist who went to the field to buy cassava from farmers. In addition to this many discussions were held with my field guide and interpreter Mrs. Cathy Nasonko and she was a key informant in this study. Two other extension officers from NADIFA who operated in Lwabyata were also interviewed, one of them also acted as a driver during several of our field trips and provided a lot of information during the field visits and car rides. He will in the text be presented as “NADIFA extension officer (1)” and the other extension officer will be presented as “NADIFA extension officer (2)”.

3.5 Interviews and interview questions

Most of the interviews were conducted with the help of Mrs. Cathy Nasonko. A few of the interviews with traders and farmers were conducted in English including those with NADIFA staff. Interviews with farmers were conducted at the home of the farmer or at the home of their friends or neighbours. Interviews with traders took place in trading centres.

Since the interviews were semi-structured, their format varied, and the questions developed as I learned more. Most of the interviews with farmers followed a similar structure. Farmers were first asked general questions about for example their age and education level. I also asked questions about income-generating activities and the number and ages of household members to get an understanding of the household financial situation and thereby be able to include households with varying amounts of resources.

Farmers were then asked about cassava farming: why they grew cassava, how they farmed it, inputs they used, what they used it for, who they sold it to, etc. Follow up questions included questions on pricing and reasoning behind different choices the farmers made, for example why they chose to sell some cassava as tubers and some as chips, or why they grew different varieties of cassava. After that questions of credit and loans would follow, for example if the farmer received credit from cassava traders, under what conditions, and what they needed it for. I would also ask what other types of credit farmers used and the pros and cons of different types of credit.

Traders were also asked general questions to begin with to get an understanding of their lives and the different activities they may be involved in. They were then asked to describe their work as a trader. I asked whom they bought cassava from, where they sold it, the prices, if they received and/or gave out credit for cassava, etc. With the traders, I also tried to get an understanding of their reasons for the different choices they made when it came to both buying and selling cassava.

3.6 Ethical considerations

The study was carried out with the support and guidance of Mrs. Cathy Nasonko. She guided me on how to carry out the research in a way appropriate to the local context. She also supported me in the translation of the questions and made sure that the questions were asked in an appropriate way. Respondents were contacted by her beforehand to see if they were willing to participate. During the interviews respondents were informed of the aim of the study, what would be done with the results, and that the study would not lead to any direct benefits for the informants (Robson & McCartan 2016). All respondents were informed that they could withdraw from the study at any moment and that they would be provided anonymity (Robson & McCartan 2016). Cathy Nasonko did not wish to be anonymous, and her name is therefore provided. Neither the questions nor findings are judged to be of a very sensitive nature, but it is still important to minimise the possibility of the study affecting respondents in a negative way. Providing anonymity is one way to minimise this (Desai & Potter 2006).

Land tenure and land rights is a very politicised and sensitive issue in the region. The contention relates to a specific form of land tenure known as Mailo (Taylor 2021). Mailo land can mainly be found in central and western Uganda as this land was allocated to Baganda notables by British colonialists for political cooperation (USAID 2010). Peasants who were living on the land became tenants (Taylor 2021). According to the law tenants who have stayed on the land for more than 12 years without being challenged by the owner, or who have paid rent for the land, cannot be evicted (Nakanwagi et al. 2021; Taylor 2021). In practice, landowners often have more power which can be seen by the large number of evictions and land grabs in central Uganda (Muzaale 2021). My field guide advised me that questions concerning land may be sensitive and people may not be willing to share details. Even though some questions were asked about the size of land used by farmers and form of land tenure this issue was not discussed to any great extent to avoid making respondents uncomfortable.³

3.7 Methodological challenges

One weakness of the study was the use of a translator. Almost all interviews were translated from the local language Ruuruli. Mrs. Cathy Nasonko translated all my interviews and it was easy to discuss questions and the study both before the interviews started and between each one. This meant that we came to understand each other well, making the interviews run smoothly.

³ For interested readers the issue of land tenure in Uganda and Nakasongola are discussed in: Pedersen et al. 2008; Nakanwagi et al. 2021; Byekwaso 2016.

Another obstacle related to not knowing the language and culture was that it was difficult for me to know how to formulate certain questions. One example is that when asking if cassava traders provided credit or loans, I did not know the local words for the type of agreement where the farmer would receive an advance payment for their crops. During the first interviews, I would formulate the question in different ways to try and get my meaning across. For example, by first asking if they were ever given a loan by cassava traders and then asking if the cassava trader ever paid in advance for the cassava. This way of asking partly worked as I found out about farmers who entered into interlocking contracts with this line of questioning. However, during the 15th farmer interview, I learned that the words used to describe the interlocking contracts farmers would enter into were “ribon” and “booking” (the exact meaning of these terms will be covered under section 5.2). After this, I could with a higher certainty know that the farmer knew what I was asking about making the findings more precise. This was the clearest example of this issue but overall, the more I learned about the language and culture I could formulate my question in a way that made sense to the informants making it easier for me to collect accurate data.

Another similar issue was that I did not, during the first interviews, understand that the husband and wife could have separate plots of land and that the incomes from these, and other activities, may be kept separate. When I initially asked, for example, ‘How much land do you have?’ to me that meant that I was asking how much land the husband and wife had together, which was not always the case. I learned that I had to ask how much land they had together and would often need to double-check and ask if the farmer's husband /or wife had additional land.

Even though I learned how to formulate questions in a clearer way I did not manage to get clear answers to all my questions. For example, when it came to questions of prices it was difficult to get a clear picture of what the lowest and highest prices during different seasons were because the prices also varied from year to year. When it came to traders none of the traders could estimate how much cassava they would sell over a certain period although they said that there was on average more during dry seasons and less during the rainy seasons. This could have been because the traders didn't keep track, because I formulated the question in a way that did not make sense to the traders, or because they did not wish to disclose the information. This meant that it was not possible to estimate the volume of trade for any of the traders.

Finding farmers with land under five acres and few additional resources proved difficult. Most farmers whom NADIFA had direct contact with were farmers who had more land than five acres and/or additional resources. Many also had social positions such as leadership roles within the community which could affect their social status and power position, affecting their access to both input and output markets (Ribot & Peluso 2003). As mentioned, the sampling was also respondent

driven, that is, a farmer that NADIFA had contact with was asked if they knew other farmers I could interview. At first, it was difficult to find farmers with less land and resources through this method as they would bring along friends or family who tended to have a similar household economy as them. In the end, we did however manage to find farmers matching the criteria through other respondents.

One issue with conducting interviews in a country like Uganda, where the presence of aid organisations is strong, and especially when conducting the interviews with the help of NADIFA which has previously been working with aid organisations, is that respondents hope or believe that the interviews will lead to future interventions. This can affect the reliability of responses as informants may exaggerate problems or focus on issues that they believe are within the scope of an aid-organisation to deal with. This was dealt with by making it very clear, at the beginning of the interview, that I was not connected to any aid organisation and that the interview would not lead to any direct benefits for the respondent.

4. Chapter 4 – Setting the scene

4.1 Nakasongola, Uganda

Uganda is a compelling choice for this study as it is seen to have immense potential when it comes to agriculture, as 37.8% of its land is arable and contains significant natural resources, including plenty of fertile lands, mineral deposits, and regular rainfall (FAO 2015). Additionally, Uganda has received large sums of development aid and has been considered “a poster child for liberal approaches to economic and social development in Africa” (Jones 2009, 1). As can be seen in Figure 1 Nakasongola is a district in the north-western part of central Uganda, located next to lake Kyoga.

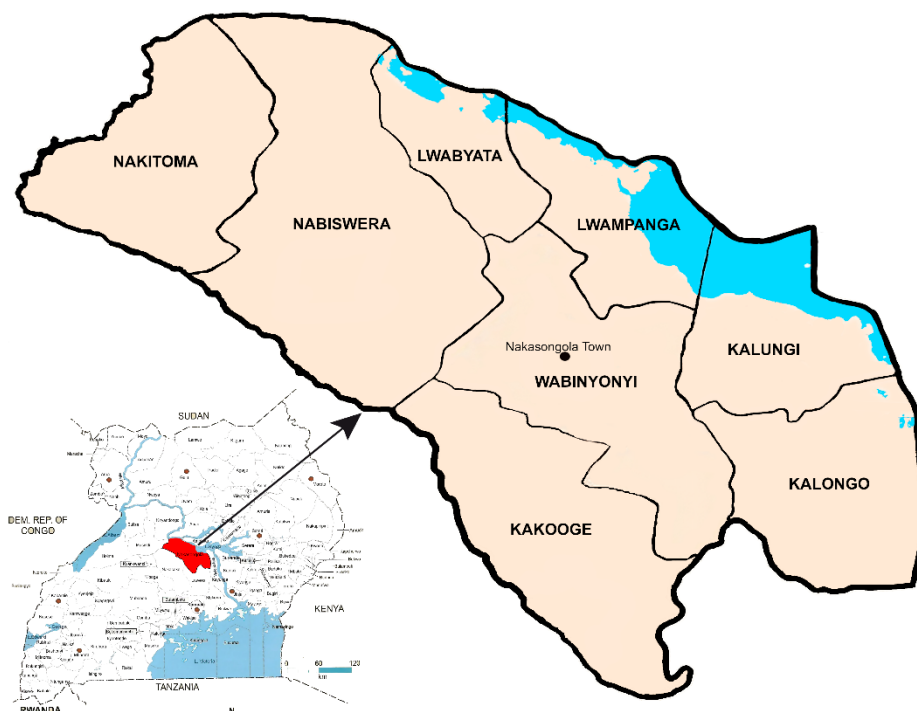


Figure 1. Map of Nakasongola District.

The main ethnic group in the area are the Baruuli (Nakasongola District n.d.). Almost all informants were Baruuli except for two farmers who were Baganda, one pastoralist who was Nyamankole, and one Basoga trader (T2). The Baruuli have a

shared language and cultural identity but they have assimilated and taken on many cultural aspects of the surrounding Baganda and Banyoro groups (Johsua Project n.d.). Apart from the Buruuli language Ruruuli, Luganda is also spoken (Nakasongola District n.d.). Over 90% of the population in Nakasongola is Christian and many of the interviewed farmers mentioned being active in churches.

The district lies in what is known as Uganda's "cattle corridor" and has one of the highest densities of cattle in Uganda. Most of the cattle are grazed communally, except for the cattle of the very rich. Even though cattle rearing is an important activity the size of grasslands decreased significantly from 2000 to 2013 and the amount of land used for small-scale farming increased (Nakanwagi et al. 2021). This is in line with reports from informants who claim that many are reducing cattle herd size in favour of crops because of declining land availability and because crops can provide a better income on smaller land.

Nakasongola district is one of the driest districts in the country and prone to drought. Subsistence farming, including livestock rearing and crop production, is the main source of livelihood for most people in the district (Nakanwagi et al. 2021). Over 88% of the population is involved in livestock farming and/or crop production and almost 66% depend on farming as their main source of livelihood (UBOS 2017). In Lwabyata sub-county most of the soils are sandy loam soils, making them suitable for cassava. Other common crops are sweet potatoes, maize, beans, and ground nuts. In addition to farming around 90% of the households have at least one member who is involved in a non-agricultural income generating activity (UBOS 2017). Most respondents had some additional activity, many reported that they used to burn charcoal but because there were not so many trees around anymore, they had resorted to other activities. Fishing, bricklaying, tailoring, and casual labour on other farms are examples.

4.2 Cassava

Cassava markets are suited for this study because in many ways it is a crop eminently suited to smallholders.⁴ It was, and still is, in many places used as a famine reserve crop withstanding drought and locust attacks. It can adapt to poor soils, is easily propagated, has a relatively high yield, and produces more carbohydrates per hectare of land than any other food staple. If there is enough moisture for the cuttings to take root Cassava can be planted any time throughout the year and can be left in the ground and harvested anytime from 6 to 48 months after planting (Nweke et al. 2001). This creates a cheap storage facility and allows farmers to put in the work of harvesting whenever other crops demand less work. Pests and diseases are one of the main drawbacks of cassava as reported both in

⁴ For a short historical overview of the spread and dissemination of Cassava to Africa see Appendix 1

literature and by the farmers in this study. Two of the most common diseases affecting cassava in Sub-Saharan Africa, that were also mentioned by farmers in Lwabyata, are cassava brown streak virus and cassava mosaic disease (IAEA 2018). Isolating healthy crops and burning infected ones is the only current solution.

A positive aspect for smallholders is that there are national and international markets for cassavas processed products offering many farmers additional income. (Nweke et al. 2001). Cassava can be used as an animal feed, biofuel, industrial starch, it has potential medicinal uses, and the leaves can even be used as a bio pesticide (IAEA 2018). In Uganda, the only factory for producing starch from cassava is in Nakasongola district, in a sub-county neighbouring Lwabyata sub-county. The factory called Pura factory only opened in July 2022 and is still working on sourcing enough cassava to meet the production capacity of the factory. Cassava starch can be used to produce paper and adhesives and Pura factory is currently trying to sell to Ugandan businesses that currently use imported maize starch. It is however difficult to break into the market and to compete with the prices of the imported maize starch. They also hope to export cassava starch to neighbouring countries in the future.

Most cassava produced in Uganda is however kept for household consumption. According to the 2019 Annual Agricultural Survey around 60% of produced Cassava is used for household consumption, roughly 28% is sold, and 5-6% is given to others (UBOS 2020). All the interviewed farmers in this study would dry chips and mill cassava flour for their own home consumption. Millers could be found in several of the trading centres in Lwabyata.⁵ The flour would be mixed with millet flour and boiled into a dough-like food called Kalo. Other foods made from cassava flour included porridge and pancakes. Boiled cassava was also common and deep fried cassava would be sold as breakfast or snacks in towns. When driving through the trading centres of Lwabyata in the late afternoons one would often see a group of around 10 men sitting around a large clay pot, holding long straws made from reed. Cathy explained that they were drinking either Kwete or Malwa, an alcoholic brew made with cassava flour, maize flour, and germinated millet.

Cassava is usually sold either as raw cassava tubers, as dried cassava chips, or as flour. The cassava can take many different routes as is partly shown in section 5.4 in Figure 3. Cassava is usually sold to rural households unprocessed in local markets, in trading centres, and on roadside markets (Odongo & Etany 2018). In Lwabyata the Nyamankole who were mainly pastoralists often bought, with cash, cassava tubers directly from the farmers in the region. I met one pastoralist family that did not own any land nor any cattle but lived on the grounds of a Baruuli family and took care of their cattle in exchange for salary, daily food (often consisting of cassava), and milk from the cows.

⁵ A trading centre is in this context a meeting point in the countryside, with at least one store. Larger trading centres could be described as very small towns.

4.3 Credit in Uganda

As noted earlier, credit, in rural settings, mainly in the global south, is essential for consumption smoothing. Even if farmers can produce food all year round a bad harvest will force cash-strapped farmers back into the credit system. Expenditures associated with weddings, funerals, sickness, the buying of houses and school fees are all examples of what credit is used for throughout the world (Gerber 2015). In Uganda, studies also indicate that credit is used for consumption smoothing rather than investments (Sebaggala et al. 2019; Carranza & Niles 2019). Credit can also be used as productive investment. Credit allows people with no prior savings to invest in improvements or new ventures. However, a study from Uganda found that very few farmers used any form of credit to finance external inputs such as fertilisers, pesticides, and seeds (Adjognon et al. 2016).⁶

Most farmers in Uganda lack access to formal credit. According to data from 2013 22.7% of farming households in Uganda use credit but 19% of this credit was accessed informally (Sebaggala et al. 2019). Informal credit sources in Uganda include Village Savings and Loan Associations (VSLA), individual lenders, landlords, friends, churches, traders etc. (Carranza & Niles 2019). Semi-formal institutions include microfinance institutions and SACCOs. Formal institutions include banks and credit institutions (Johnson & Nino-Zarazua 2011). A recent study of two districts in Uganda found that VSLAs were the main source of credit together with money lenders and input suppliers (Yami & Van Asten 2018). A VSLA is a group where each member contributes a set amount of money on a regular basis (for example weekly or monthly). Members can then borrow from the group, usually with a monthly interest rate of between 5-10%. The amount farmers will be able to borrow depends both on the total amount the group has saved and the amount they have managed to save themselves. The amount a farmer can borrow therefore depends both on the number of members and the amount the individual farmer has saved. A SACCO is also a member organisation but compared to a VSLA they are connected to banks, taking out loans requires collateral, and profits are not returned to members but used to, for example, lower interest rates (Baluku et al. 2019; Gerber 2015). The line between informal and semi-formal credit institutions is not always clear cut as there is a large variation (Gerber 2015).

⁶ An overview of previous research on credit in Uganda can be found in Appendix 2 and a short overview of the history of formal credit and government interventions on credit in Uganda can be found in Appendix 3.

4.4 The FAO project in Nakasongola, Uganda

The FAO has initiated a project in Nakasongola, Uganda focused on the development of the cassava value chain, based on its framework for the sustainable development of food value chains. Currently, only a draft project proposal is available (FAO Uganda 2023) and the main objective of the proposed project is to help local farmers “exploit market opportunities of value-added cassava for enhanced food security, income and climate change resilience among smallholder farmers in Nakasongola district of Uganda’s cattle corridor” (FAO Uganda 2023, 3), reflecting the assumptions that further engagement in the market will lead to enhanced food security, higher incomes, and climate change resilience.

What the proposal conveys is that farmers lack the knowledge and assets to participate in the markets in a competitive way and that credit institutions do not exist: “smallholder farmers lack knowledge about appropriate adaptation options for their production systems, and have limited assets and risk-taking capacity to access and use technologies and financial services” (FAO Uganda 2023, 3). To combat these perceived deficiencies the FAO has developed three main objectives that include many different activities.

The first objective mainly concerns education and information sharing including training for the implementing partner and farmer groups on a variety of subjects such as gender sensitivity, business development, and climate smart farming. The second objective is more practical and is, in very brief terms, focused on providing farmers and other value chain actors with technology and infrastructure to be able to produce more high-value cassava products. The third component is called “Sustainable access to and control over resources, i.e. financial, land resources and other assets for smallholder farmers and actors in cassava value chains” (FAO Uganda 2023, 8). One part of this is establishing “links with financial institutions to increase access to gender-responsive opportunities for saving, access and use of credit for investment in cassava value chain businesses” (FAO Uganda 2023, 8). Here it is clear that they assume that the issue with credit is a practical one that farmers basically need to be “linked” with financial institutions. It is also assumed that credit will be used for investments within the cassava value chain which, as discussed, may not be the case at all (Gerber 2015).

The local farmer's organisation Nakasongola District Farmers Organisation (NADIFA) has been chosen by FAO to be the main implementing partner due to their well-established farmer networks in Nakasongola and their previous experience of project implementation in the region. NADIFA is a “Producer Organisation” with farmers and traders as members (FAO Uganda 2023). The organisation has several agricultural extension officers, many of whom are trained agriculturalists or trained in animal husbandry. NADIFA is mainly organised around farmers groups. These groups are often centred on specific crops and are also VLSAs. NADIFA does not organise these groups themselves, but the groups

are based on farmers signing up to form groups voluntarily and registering them at the sub-county. NADIFA can then receive lists of these groups, their focus crops, and contact person. NADIFA provides capacity building and advisory services, they also sell seeds, own a milling facility for maize and cassava, and have a member owned Savings and Credit Organisation (SACCO) (FAO Uganda 2023).⁷

⁷ When interviewing NADIFA staff (with specific questions on their work and ways they support credit options for farmers) this SACCO was never mentioned so it is unclear to what extent it is in use.

5. Findings

5.1 Farming (cassava) in Lwabyata

The interviewed farmers eat cassava throughout the year, both the tubers and the flour, however most agreed that cassava was mainly eaten during the first six months of the year whereas sweet potato was the main food the following six months. As seen in Figure 2 the period for eating cassava coincides with the period farmers reported that there is generally less food available because the harvest from the first season won't be ready and the reserves from the second season may begin to deplete. Since cassava can be stored in the ground farmers can still eat fresh cassava planted in the previous season or even from the season before that.

There are two main rain seasons in Lwabyata sub-county and many farmers, especially the older farmers, discuss happenings in terms of seasons rather than months or years. The rain season with the heaviest rains is, in a normal year, between mid-March until mid to end of June, farmers often referred to this part of the year as “the first season”. The other, smaller, rain season, referred to as “the second season”, is between August to the end of December as can be seen in Figure 2. The exact timings of the seasons vary from year to year and in years of drought the rains can be minimal and irregular. The two most recent droughts happened during 2021 and 2018. The drought in 2018 is reported to have led to the death of at least 500 cattle (Wander 2021).

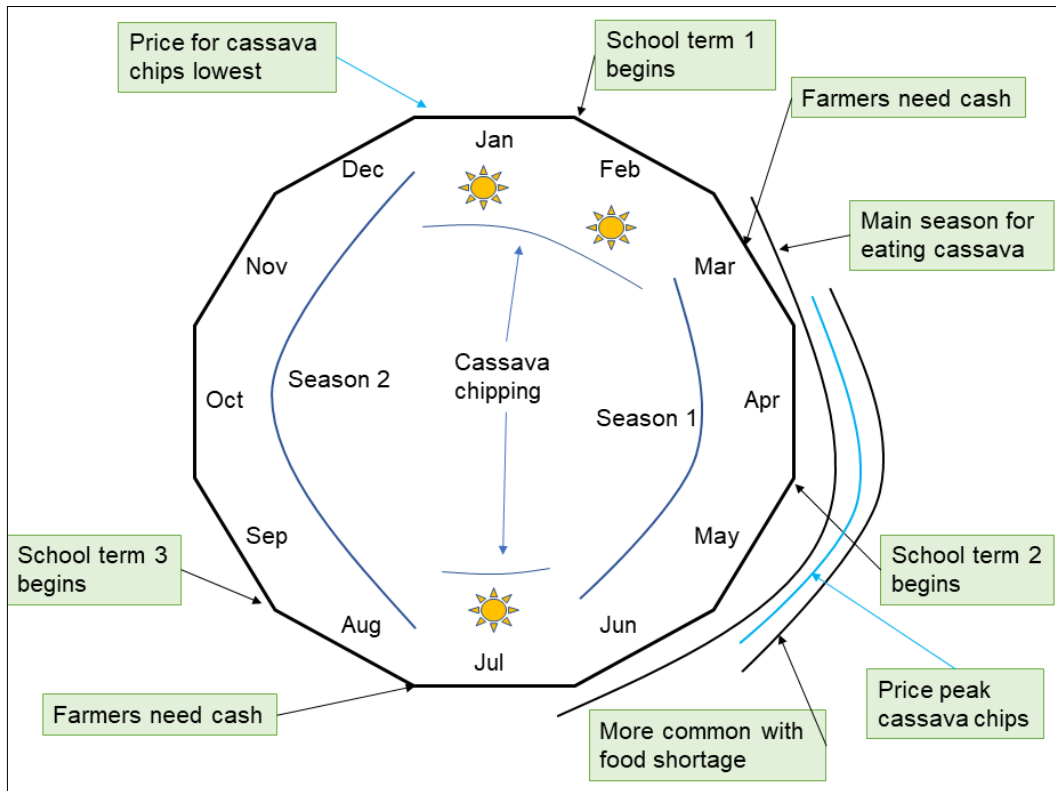


Figure 2. A seasonal calendar including important periods and events in the life of the interviewed Lwabyata cassava farmers.

“It is a cultural crop, every Baruuli grows Cassava, even my ancestors used it.” (F10)

As can be seen from the quote above growing cassava was nothing new to the interviewed farmers. Stems, sometimes referred to as “cuttings”, is the main input need for cassava farming. The most common practice, that all farmers reported was to re-use stems from previous harvests. Some had bought them from other farmers at some point, but most had received them for free from friends or neighbours. One farmer explained it like this: “For us we just have it as a culture, we give out seedlings for free to community members because they are neighbours, relatives, friends. Because when I also need, they give back to me” (F1). Previous projects by NADIFA had tried to get some farmers to grow seedlings and sell to farmers and two of these farmers were interviewed but both said that it was difficult to sell them since people expected them to be given freely. In addition, many farmers would help each other in farming activities, especially small and medium farmers. Both sharing of seedlings and sharing family labour resources points to non-market systems of exchange, something we will get back to in the discussion.

The most common variety of cassava among the farmers was NAROCAS 1, a high yielding variety that was relatively resistant towards brown streak disease. It was introduced by the government research facility NARO around four years ago. However, almost all farmers grew another local variety in addition to NAROCAS 1. NAROCAS 1 matures quicker than local varieties. Once matured it cannot be

kept in the ground as long as the local varieties could, most farmers saying it needed to be harvested after 1 year. Local varieties would mature after 10-12 months but could be kept for up to two years in the ground. In addition, many farmers said that NAROCAS was not as good to eat because it was so high in starch making it unpalatable.

None of the interviewed farmers used any type of inputs such as fertilisers, pesticides nor water, seeing no need, a point in favour of cassava cultivation. One farmer reported using a liquid pesticide called Rocket, which the cassava stems are dipped into to prevent termites from attacking them. When interviewing an input dealer at one of the local trading centres she said that others also bought the pesticide. Since I had previously read that cassava yields in Uganda are generally low, I would sometimes ask the farmers if there was any way for them to increase the yields. Most of them plainly said no, and a couple answered that they would have to buy more land. One farmer said that they don't measure so he couldn't know. All in all, interviewed farmers did not seem concerned with, nor interested in, maximising the yields of their cassava, another important point for the discussion on the rationale of farmers and the type of system within the community.

“Cassava is important, when you have it, you are always food secure, that's why we first of all plant Cassava.” (F21)

Even if respondents did not seem concerned with maximising yields the quote above partly shows why cassava is important and helps explain the reasoning for growing it. All farmers interviewed appreciated that one was able to use the crop both for consumption and as a cash crop. In addition, other positive features that were brought up were that it can be stored in the ground, it is relatively drought tolerant and doesn't need inputs. Most informants either staggered the planting throughout both rain seasons or planted only in the first. One reason for staggering the planting is the limited availability of family labour. Another reason was that this would spread out the availability of cassava and provide an income throughout the year. Since most incomes from farming is seasonal, cassava provided a good reserve to smooth out the highs and lows, both for consumption and cash. Many farmers would also keep some cassava plants in the ground for up to two years, as a reserve, which was one reason they would not switch completely to the higher-yielding variety NAROCAS 1. Both staggering the planting of cassava and the resistance to switching to a higher-yielding variety of cassava are difficult to understand if one tries to do so through the lens of profit maximisation. However, if one considers that the goal is to remain food secure and minimise risk these strategies make more sense. This will be returned to in the discussion. This section has partly covered the first research question *“Why and how do farmers engage in cassava markets and what are the constraints to increasing profits and return on investments within the market?”* How farmers engage in cassava markets will be

covered in the two following sections and a discussion on constraints to returns will be covered in the discussion.

5.2 Farmers

5.2.1 Introduction: meeting two cassava growers

Joseph, a young, small farmer

One day I met with the farmer Joseph Ssebale (F17), a relatively young farmer of 27 years who lived with his wife and one-year-old child. We were not at his home but at the house of his neighbour. We were seated under the courtyard tree, common to all the houses I visited, and a bit further away cassava chips belonging to the owner of the house were spread out on the ground. During the interview a man on a motorbike arrived in the yard, he talked to the woman who owned the house and began putting the dried cassava chips into a white jute bag, filling it to the brim. Once the cassava was loaded into the bag, he carefully placed it on his motorbike, secured it with rope, and drove away. When asking Joseph to whom he usually sold his cassava he pointed to the man scooping up the cassava saying: “*like that trader you see there*”. I asked him how the price for the cassava chips would be decided. Joseph explained that “*it is normally the traders who propose the price. Those traders always sit at a round table and decide on a price, so it means that even when you propose a price the price will still be the same with other traders.*”. I continued to ask if there were others he could sell to or if he could sell the cassava in other forms. He said that there were no other buyers and even if milling it into flour for selling was a possibility it was risky because if the buyer changes their mind, he would be left with large quantities of flour that would eventually go bad.

Joseph and his wife farmed two acres of land that they had received from Joseph’s father. They also owned one goat, some chickens, and three oxen which they could use to plough their land and rent out to other households in return for cash. When renting out the oxen he and his wife would also provide the labour needed, his wife leading the oxen while he handled the plough. Considering the small amount of land they had, and that renting out of oxen and labour was their only additional source of income, they did not always have enough cash to cover their needs: “*I normally borrow money to cater for my basic needs, like clothing. Or if my animal is sick and I want to get a vet.*”. I asked where he would borrow the money from and he explained that it was the very neighbour in whose yard we were sitting: “*This lady, she is my neighbour, we have a good relationship so I can borrow from her.*”. I knew that it was also possible to receive credit from cassava traders, but when I asked if he ever got credit from them Joseph made it clear that he did not think that was a good option “*It is possible, you can, they give you a*

*ribbon*⁸ but mostly they will exploit you because giving you a ribbon means that you really need money for something and they will only propose a price that is really low because they know that you really want money and you're bankrupt.”.

I also asked Joseph if he was a part of any VSLA, to which he replied: “No, I am not in any VSLA, the reason being people have tried these VSLAs, but money is always mismanaged, you get there and the treasurer took a loan and never paid back, the secretary took a loan and never paid back, so that discouraged me from being in the VSLAs.”.

Mirembe, a female large farmer

Mirembe is a 46-year-old female farmer. She and her husband have 23 acres of land, two pigs, 10 goats, and six cattle. They have four children living at home between the ages of 13-22. In addition to their farming, her husband works as an engineer. The interview took place at Mirembe's house. I asked her which season she would usually harvest the cassava: “If the purpose is to dry the cassava, we normally do it during the dry season, but if we have an emergency we go and uproot it and sell it anytime.”. Mirembe continued to explain that they could either uproot it and sell the tubers as they are or sometimes they would sell the whole field of cassava, meaning they would not have to provide any of the labour. Both these options resulted in less money than drying, chipping, and then selling the cassava and would therefore only be done when they needed cash quickly, especially during the rainy season when drying cassava is difficult. I asked her how the prices would be decided: “There is always a negotiation between me and the trader, some traders I will have talked to on the phone beforehand and decided the price.”.

To cater for emergencies Mirembe would borrow money. She told me of an example when she needed school fees and borrowed one million shilling⁹ for one week from a cassava trader, as advance for her cassava chips. She said that the price she had received from the trader was fair and not lower than if she had sold the cassava chips as usual. We continued to discuss it and she clarified that the trader was her friend and when asking if she thought he would provide anyone with this type of loan she said that “It is possible if at all they are trusted.”.

The examples of Joseph and Mirembe identify some of the key themes that will be discussed in this section on farmers. These include how and when farmers sell cassava, how prices are decided, and given farmers need for cash and credit, their different options of where they can obtain credit and the accompanying terms and

⁸ The term “ribbon” was often used to describe credit received in advance for a crop. Another term used in the context was “booking” which was rather used in relation to the deal itself, for example that the trader “had made a booking”. As later explained to me by Cathy, the term implies that the trader has “booked” the crops and they cannot be bought by anyone else. There was also an underlying understanding, within the term “booking”, that the farmer would sell all the produce to the trader, not only what he had provided credit for in advance.

⁹ “Shillings” throughout the text refers to Uganda shillings (UGX). 1000 UGX = 2.48 EURO (XE 2023)

conditions under which they do so. Central to these transactions is the key role of social relationships and trust. The following three sections will discuss cassava markets, credit through traders, and other credit options including the fear of taking loans. In each section farmers will be divided into groups based on their landholding size and their experiences will be presented accordingly. Similarities and differences within the groups will be discussed and at the end of each section.

5.2.2 Cassava markets

Between them, Joseph and Mirembe described four different ways to sell cassava: as chips, as flour, tubers, or the whole cassava fields. Joseph and Mirembe described the price setting in different ways where Joseph expressed the view that there was no point in negotiating the prices because the traders colluded whereas Mirembe presented it as a negotiation between the farmer and trader. Mirembe sold her cassava in a more varied way than Joseph, the main reason being that she quickly needed cash whereas Joseph could borrow money from his neighbour to cover for emergencies. In the following section, three farmers will be presented, one from each group based on landholding size. This section will focus on the different ways farmers sell cassava, their reasoning for doing so, their experiences of selling cassava to traders, and how prices are set.

Small farmers

Joseph and I talked about how long people had grown cassava in the region. He explained that people had been growing it for consumption for a long time, even his father grew cassava but in recent years there had been a change: *“These last four years I have seen people here grow cassava on a large scale, that is when cassava became a cash crop, because the prices per kilogram, for the dry chips, is always increasing.”* He believed that the increase in prices was due to emerging factories that are also buying raw cassava and driving up the prices for the chipped cassava as well. Even though the prices had increased he felt that the prices were too low *“they usually buy cassava from us at low prices, when I sit down and calculate all the time I have invested, like weeding, the time I put in for uprooting, and then the labour that I put in for chipping the cassava, I really see that the price is low.”* In addition to the low prices another issue he brought up was that the prices for the cassava *“always fluctuate”*. As Joseph only had two acres of land cassava was his main cash crop and he explained that profits from it was the main way to cater for the needs of his family.

Akello Tusiime (F6), another small farmer of 54 years, lived with his wife and 18 children who were between the ages of 2-18. The family had five acres of land, two oxen, six pigs and some chicken. The oxen, used for ploughing were another source of income: *“Most of the time we rent them out but there are those good friends of ours who we just give for free”*. In addition to the farming Akello worked

as a bricklayer during the dry season in January and February. He would hire labourers to help him make and sell the bricks. On two of his five acres, Akello grew cassava. I asked what he did with the cassava, and apart from keeping some of it for consumption he told me he would mainly sell it in two different ways: *“Some will come and buy raw tubers, for instance, there are those factories that buy raw cassava. Then sometimes we chip it and sell chips.”* The factory he mentioned was the Pura factory described under section 4.2. I continued to ask him why he sometimes sold the tubers and sometimes sold the chips, he replied *“It depends on the prevailing market, when that market is there for raw tubers, you sell it raw. It also depends on the prices, like the price of the raw tubers may be low when the dried one is high. Then depending on the buyers, the interest of the buyers, some may be interested in raw tubers and others in chips.”* Another farmer informed me that during times of drought, the raw tubers would often be more profitable than dried. Akello also explained that if he had a *“pressing need”* he would sell the whole field of cassava to quickly get money. In addition, he said that it had to do with *“personal planning”*: if he had set himself the goal of having a certain amount of money by the end of the year and he didn’t have time to peel and dry it he might sell it to Pura farm instead.

We continued to discuss the prices for the different options even though it was clear that it depended on both the season and the year. I asked if the price from the Pura farm was higher or lower compared to selling the cassava as dried chips, he explained that *“The price now isn’t so bad because if you sit down and calculate, the labour costs required in chipping the cassava, and all the costs you inquire, they are almost equivalent to the price at the factory.”*

An issue brought up by one small farmer, in relation to pricing, was that traders would “fix” the scales so that they measured less than they were supposed to. The farmer (F34) explained: *“There was a time, when we estimated that that the cassava is around 22 kilograms but after taking to their weighing scales it measured and said that it only weighed 10 kilograms.”*

Akello was one of three interviewed farmers who sold cassava to Pura factory although some other farmers had heard of it and were considering selling there. The two other farmers who sold to the factory were large farmers with 23 and 27 acres of land. Both Akello and Joseph only sold their cassava as tubers or chips to traders and the Pura factory, however two of the small farmers also sold bundles¹⁰ of cassava in the marketplace directly to consumers. This could generate more money but took time and one farmer said that she was only able to sell the *“good”* cassava in the market, the rest she would consume herself or dry into chips. Two other farmers would also make pancakes from cassava flour and sell directly to customers, one of them selling to a school nearby.

¹⁰ A bundle of cassava usually included 4 large tubers and 1 small tuber

Medium sized farmers

Francis Muhumuza (F1) is a medium-sized farmer who grew cassava on three and a half acres out of his 15 acres of land. Apart from the cassava kept for home consumption he would dry and chip most of it and sell it to traders. Traders would come by his house, looking for cassava chips and when he described how the prices were set it was a similar story to the one told by Joseph: *“Those traders they always discuss and come to a consensus of what the price should be so each trader will have the same price. Even when you chase away one who is giving you a very low price, then also the other one you invite will give you the same price. It is not like these livestock, remember it is perishable. So it becomes a general price, if it is 700 it will be 700 everywhere.”*. He continued to explain that he believed that the traders kept them *“behind the curtain”* and that the prices the traders received in Luwero were much higher, although he said that it was difficult for him to find out the exact prices in Luwero.

Since Francis clearly wasn't too happy about how the price was set with the traders I asked if he could sell the chips somewhere else, but he didn't know of any other options: *“I don't have those connections, I don't know where to go. I could think of making it into flour, but I don't know where I would sell it.”*. Francis also explained that in a good season where other crops did well the price of cassava would decrease whereas it would increase in the dry season. Right after explaining this, he, however, added that the prices always fluctuate, not only between seasons but even from week to week.

As with the smaller farmers, some medium farmers claimed that the traders were the ones who decided the prices whereas some explained it as a negotiation process. Even though Francis didn't usually sell his cassava as tubers or the whole fields, there were other farmers in this group who sold off cassava tubers and fields when they needed cash quickly.

Large farmers

Mirembe (F7) who was introduced earlier is one of the large farmers and unlike Francis, she described the price set as more of a discussion. This was however not something that all large farmers conveyed. One farmer (F10) said that it was the traders who decide the prices and when asking him what other options he had, he replied: *“There is nothing I can do with the cassava, because I am in a need, my children need to go back to school so the traders own me.”*.

One thing that stood out for this group of farmers was that some would sell cassava chips in bulk. One of the farmers explained it like this (F11): *“Because I want to raise a lot of money, especially to raise money to support those ones in university. You have to save it, make sure you have like one ton or two and then you sell it all at once to get a good amount of money”*. He continued to explain how he would negotiate to get a better price: *“I tell them, instead of that fuel which they*

would have used to go and pick the 50 kilograms from one neighbour, 100 kilograms from another neighbour, I make some small increment. If they are buying at 1000 a kilogram, I will ask them to pay me 1200". The ability to sell cassava in bulk does not only depend on the total amount of land you have but also how much cassava you are growing, but since all large farmers grew at least four acres of cassava it would make sense that selling in bulk was easier for them. As this farmer demonstrated the ability to sell in bulk also has to do with being able to store and save the cassava, which would diminish if you don't have space for storage or if you do not have other sources of food or income.

Summary – differences, and similarities between groups

As can be seen from these accounts cassava was sold in a variety of ways. However, the options were limited, the only options for selling large quantities were either to Pura farm or to traders with farmers from all groups expressing that they did not have any other options. One medium, female, farmer had a small store on her farm where she would sell cassava flour, but she said that it was very small quantities because most people had their own cassava, and she didn't want it to go bad. Farmers from all groups sold cassava both as chips and as tubers but it was only small, female farmers who would sell bundles of cassava at marketplaces and make pancakes to sell directly to customers. These options would provide them with more money but were also more time-consuming. The other major difference between the groups was that some large farmers reported selling cassava in bulk and that they were able to receive better prices because of it. That selling in bulk would invoke premium prices was also confirmed by traders and the NADIFA extension officer (1). Farmers from all groups reported selling cassava tubers or whole fields of cassava in times of emergency when they quickly needed money. Cassava was in this way a reserve in case of emergency.

When asking how prices for cassava were set there was a large mix among, within, and between the groups with some farmers saying that it was a process of negotiation and some saying that the traders decided. All farmers knew what the "prevailing price" for cassava chips during a certain period of time was, partly because, as many farmers expressed, they shared the information among themselves: "*It's them who decided the price, but you still also get the information from your fellow farmers, so you keep on comparing the trader's price and the one that you got from the other farmer.*" (F26). It is possible that the farmers who said that it was a negotiation referred to instances like this, when they knew the prevailing price, but the traders would offer a lower price. Compared to selling chips the price for a whole field would vary more as one farmer explained: "*for the dry chips it is easy because the price is commonly known, all the traders usually have the same prices, but for the raw tubers someone comes, goes to the field, looks*

at the field, uproots as a sample, looks at it, tastes it, then you start on negotiating the price.” (F32).

As seen in the examples of both Joseph and Francis, several small and large farmers believed that the traders were colluding. This seems to be the case as one of the interviewed traders explained how they would decide on prices together: *“It is a must because we are one, there is that unity amongst us and if it is deciding on reducing the prices, we first sit, then we argue and agree” (T6).* That traders would “fix” the weighing scales, as noted by one of the small farmers, was also brought up by one large farmer, Cathy, and the NADIFA extension officer (1). One of the medium traders (T2) also brought this up when talking about the smaller traders that would bring him cassava saying: *“Because they want to get cassava, they use fake weighing scales, and that also brings contradiction with the farmers. What they do is weigh something like 70 kilograms from the farmer when total it is almost 100 kilograms.”.* Collusion among the traders of cassava chips means that there is no price competition (the basis for a functioning capitalist market) but rather a market that is informally regulated by traders.

Based on accounts from the farmers, they are aware of the prices, both for cassava chips and tubers. They share information amongst themselves and act upon the information. The fact that many farmers switched to cassava farming due to increasing prices and that many constantly weighed the different options, selling tubers versus chipped cassava, is a clear indication of this. However, due to constraints such as colluding traders and the need to focus on meeting subsistence needs instead of maximising profits, farmers cannot, or do not, always act on the information. This will be discussed further on.

An issue that was only mentioned briefly in the accounts above but that was brought up consistently was the fluctuating prices. During the interviews I could not plainly ask how much farmers sold their cassava chips for but would have to ask what they cost during a specific time. There was some seasonal price variation for cassava chips due to availability (see Figure 2), since it was difficult to dry the cassava during the rain seasons. In addition, the prices would, as Francis explained, fluctuate yearly depending on if the overall season was successful or if there had been drought. However, the quick changes in prices, sometimes over only weeks, and according to the interviewed traders, from day to day, result in a highly volatile market that becomes very difficult to explain through just effects of supply and demand. One of the traders was when we discussed prices said that *“it depends”* so I continued to ask what it depends on and he replied that: *“those people (traders above him) challenge us when they want to make their own money”*, indicating that traders above him may also be colluding which further contributes to volatile prices. The relationship between traders will be discussed more under section 5.3 and the significance of price volatility both for farmer’s livelihoods and the mechanisms of the cassava market will be returned to in the discussion.

5.2.3 Credit

All except one of the interviewed farmers, Thomas (F19), said that they had borrowed money at some point. Thomas had over 20 acres of land, 150 beehives, 15 cattle, seven goats, an orchard for oranges and mangoes, and a tree plantation for firewood. The farmer explained that he received cash from his fruit orchards and could sell of cattle if he quickly needed cash. All other farmers, even those with seemingly equal or more resources, did borrow money. Farmers borrowed money from family, friends, neighbours, traders, VSLA, SACCOs, banks, and government initiatives. An overview of where farmers had received formal, semi-formal, and informal credit according to landholding size is presented in Table 3.

Three of the research questions will thereby be discussed under this section on Credit, that is: “What informal and formal credit relations do cassava farmers engage in and why do they engage in them?”, “What choices do farmers have between the different credit options and in what ways are they constrained by the terms and conditions of the different options?”, and “How is access to credit for both traders and farmers regulated?”. For the third question, only farmers' access to credit will be discussed. The first part will cover the credit that farmers receive from cassava traders in the form of interlocking contracts. The second part will cover other forms of credit that farmers can receive and the pros and cons of the different options. Both sections will follow the same outline as that on Cassava markets where small, medium, and large farmers will be presented, followed by a summary that also compares the groups.

Formal credit has a clear vocabulary where interests are calculated on a time-specific basis. The “costs” of informal credit are not always as straightforward and there is a lack of terminology. Farmers received advance payment for cassava and sometimes they would have to give the trader more cassava than they had been provided credit for, this will be called “explicit interest”. The price for the cassava would often be decided when the credit was provided but the prices for cassava sometimes increased before the credit was paid back meaning the farmer would have earned more if they had sold it later. This loss or “cost” will be termed “implicit interest”.

Table 3. Where interviewed farmers have received credit, according to landholding size.

| | Cassava traders | Paid implicit/explicit interest to traders | VSLA | SACCO | Bank | Government scheme |
|-----------------------------|-----------------|--|------|-------|------|-------------------|
| Small farmers (1-5 acres) | 5 | 5 | 5 | 0 | 1 | 0 |
| Medium farmers(6-19 acres) | 4 | 1 | 9 | 0 | 0 | 2 |
| Large farmers (20-50 acres) | 5 | 2 | 7 | 2 | 1 | 0 |

Note: Lending from family and/or friends not included in table due to uncertainty of findings, more information under section 5.2.5.

5.2.4 Informal credit through interlocking contracts

Credit for cassava from traders was provided for cassava chips but would only be extended if the trader could physically see the farmer's cassava stands or if the farmers were in the process of harvesting or drying the cassava. Therefore, most farmers would repay the credit in around two weeks. A few farmers reported using the money for only a couple of days and the longest time a farmer had kept credit for was one month. It was clear, from both traders and farmers, that the time period for the credit extension was fluid and negotiable. Farmers reported traders coming back for the cassava earlier than decided and traders reported having to wait longer for the repayment in case, for example, rains began so that the cassava could not be dried, or if the farmer simply hadn't had the time to chip the cassava. In Table 4 there are some examples of how much credit and for how long some farmers held the credit, this clearly shows the variation in time and amount of credit. For cassava tubers, none of the interviewed farmers received credit from traders since tubers could be harvested and sold right away and the farmers could sell the whole fields directly to traders. In this section, when the word "cassava" is used it refers to cassava chips, if discussing cassava tubers or fields of cassava this will be written out explicitly. Thirteen of the interviewed farmers had received credit from traders¹¹. Some farmers had not, and some did not want credit from traders.

Table 4. Examples of the amount of credit farmers received and the time before they repaid.

| Farmer | Loan amount (in UGX) | Time loan kept |
|--------------|----------------------|----------------|
| Moses (F2) | 200'000 | 1 month |
| Carol (F30) | 300'000 | 2 weeks |
| Mirembe (F7) | 1'000'000 | 1 week |
| Francis (F1) | 100'000 | 2 weeks |

Small farmers (1-5 acres)

Carol Mukasa (F30) is a single mother of six children who farms five acres of land. All her children are in school, and Carol would sometimes needs cash for "*school fees, medication, uniforms, and other necessities*". One way to quickly receive cash was to get credit, in the form of an advance payment, for the cassava chips she would be making (and for other crops). She explained that if the traders come and see that you are in the process of harvesting your cassava, and they judge that the chips will be ready in roughly two weeks, they could give you an advance.

Carol and I were sitting in the car which we used to go out into the field, a four-wheel drive with many seats, almost a small minibus. We had planned to hold the

¹¹ As explained in the method section there is some uncertainty regarding the exact number.

interview by a church that also acted as a local meeting point but when we got there it was occupied by a village council having a meeting. So instead, we parked the car under the shade of a tree a bit further away and conducted the interview while hearing the faint voices from the discussions in the village meeting. Carol explained how the price was decided for the chips that were bought in advance. The negotiation would always take place before the credit was given and would reflect the prevailing price at the time. Sometimes the prevailing price of the chips would increase during the weeks that the processing took place meaning Carol would lose out on the deal. She first gave me an example of the same issue but with maize: *“Someone came looking for maize one day, but it was not ready so I asked that trader “Can you please give me some money as ribon for this maize?” because my child was sick. I went to the hospital, after coming back I processed the maize, shelled the maize, and during that time the price increased, but he had already booked me at a low price”*. I asked if there had been similar situations with cassava and she said that it happened with cassava as well. She told me about one scenario when she was anticipating that the prices would increase and therefore only accepted credit for exactly what she needed: *“I told him: “the price might increase so only give me a little money for 10 kilograms”, when he came back the price was high so what we did was that we weighed cassava that was worth the amount of money he had given me, but for the rest of the cassava he had to consider the prevailing price.”*. Here Carol had to pay implicit interest for the cassava that had been paid for in advance but the rest of her cassava was sold at the prevailing price

There was only one farmer who said that she would receive the same price for additional cassava that she had not received an advance for. When asked why she hadn't sold the additional cassava elsewhere she replied: *“He had already paid me that booking, that ribon is like a booking that you will not sell to anyone else.”* (F15). Even if other farmers also described the practice of “booking” in the same way all others agreed that the remaining cassava that had not been paid for in advance would be sold at the prevailing price. In Table 5 there is an example of how these different terms affect the amount the farmer is paid. However, since the informal loans were negotiable regarding time period and the addition of implicit interest unknown to the farmer Table 5 should not be viewed as a form of blueprint. It is also important to remember that farmers could not always know if prices would increase (or how much) and could not themselves look at a table such as this and calculate the cost of the loans. All in all, entering into this type of loan is uncertain and not possible for the farmer to predict. One small farmer also reported having to give an additional two kilograms of cassava for a loan of 20'000 shilling over a two-week period, a type of explicit interest.

In relation to credit and the sometimes unfavourable, conditions it is also worth bringing up the issue of traders “fixing” the weigh scales again. This is because the female farmer who brought this up (F34) also added that if she noticed that the

scales were fixed under normal circumstances, she would not agree to sell her cassava but if she had received credit for the cassava, she might try to argue but, in the end, she would have to use the fixed weighing scale because she had already used up the money.

Table 5. Example of resulting payments for different terms of credit extension. Prices and price shifts taken from farmer interview (F15).

| Example of a two-week loan | |
|--|--|
| <i>The farmer expects to produce a total of 50kg cassava chips</i> | |
| Credit amount provided | 20'000 shilling |
| Prevailing price at the time credit provided | 1000 shilling /kg |
| Price after 2 weeks | 1200 shilling /kg |
| If all 50kg had been sold for 1200 shilling/kg: | |
| 1200 x 50 = 60'000 shilling | If remaining 30kg are sold at 1200 shilling/kg: |
| | (1000 x 20) + (1200 x 30) = 56'000 shilling |
| If all 50kg are sold at 1000 shilling/kg: | |
| 1000 x 50 = 50'000 shilling | |

Among small farmers there were also more farmers like Joseph, who didn't accept credit from the cassava traders due to, what he saw as the exploitative nature of the deal. The fact that traders would take advantage of you because you were desperate, as Joseph highlighted, was also mentioned by other farmers and my field guide Cathy. However, Joseph was able to borrow money, from his friend and neighbour, whom he paid back in cash without any interest, something that not everyone is able to do. Some of the farmers did not get credit from the cassava farmers simply because they feared that if they borrowed money, they may not be able to pay back. Akello (F20), the small farmer who had five acres of land and worked with bricklaying, did not receive credit from cassava traders. He did not say that it was because of the exploitative deals but rather because the credit was difficult to get all together: *“For the traders to give you it is not easy, and mostly it depends on the relationship between you and them. If you have a strong relationship, they will give you.”*

A clear common denominator among small farmers is that the ones who received credit from traders all had to pay implicit and/or explicit interest for the loans. All small farmers needed loans for “basic needs” such as school fees, medical fees, and sometimes even to buy food. In addition, some needed it to hire labour for weeding or uprooting, or oxen for ploughing. The main difference was the terms of the credit and whether they could receive, or wanted to receive, credit from cassava traders.

Medium farmers (6-19 acres)

Damba Nalubega (F12) was 87 years and farmed seven acres of land together with his wife. The interview took place next to their brick house under the courtyard tree. During the interview both Damba and his wife were sitting on the ground peeling and cutting up cassava for drying. Damba used to have more land but had divided it among his children who now had their own households. Three of his grandchildren lived with him and one reason he needed to borrow money was to pay school fees for his grandchildren. Sometimes, he would borrow money from the cassava traders. Unlike Carol he did not have to pay any type of implicit nor explicit interest. Even if the price changed while he had the loan, they would discuss the price again and “*consider the prevailing price*”. I asked how come the trader didn’t ask for anything extra and he said: “*Because these traders are always our friends, and they fear that if they do not give it at that prevailing price, we will hear from others, ‘ah, from me they bought from such and such a price’ so those traders will then fear to come back because he exploited you.*”.

Francis Muhumuza (F1) who, in the section on cassava markets (5.2.2) complained over colluding traders, also said that friendship and a personal relationship was important to get credit from traders. He said that the traders would provide credit “*depending on the interpersonal relationship between them.*”. When I asked what type of relationship you should have to be able to receive credit, he explained that you should be a “*long-time friend, a long-time customer.*”.

Out of the 10 medium farmers, four received credit from cassava traders. Only one farmer (F18), a female farmer with six and a half acres and a small liquor store, reported having to pay implicit interest on the credit, that is, if the prices increased, she would still sell the cassava at the price first agreed upon. I asked what would happen if the prices decreased but she said that this had never happened to her so she didn’t know. None of the interviewed farmers had experienced this which makes sense if one takes a closer look at Figure 2. Most farmers chip their cassava from January to February and will need credit for the upcoming season however this is also when the prices for cassava is usually lower, the prices peaking in May. It is therefore not likely that the prices will decrease before the farmers repay the credit.

A medium farmer who chose not to get credit from the traders is Maria Birungi who has 10 acres of land for farming, 10 goats and five cows. Her husband is the one who owns the land, and he also has additional land and another household, although she did not know how much land he had. Maria did not accept credit from cassava traders even though she said they would provide it if she wanted to. She explained her reasoning like this: “*A trader could give me the money, I use it, but afterward when I have used the money, some other buyer comes with some good price so I would want to sell to him, yet I have already used the other one’s money. So, I have never done it, I fear it, and I have it in mind.*”. Through this statement

Maria made it clear that even if she had not taken credit from traders, she assumed that doing so may result in a lower price for her, instilling, in her words “*a fear*” of this type of credit. This sentiment was reflected among other medium farmers who “feared” credit from traders and instead preferred to borrow from VSLAs, which will be discussed more in the section on other credit options (5.2.5). One farmer simply claimed that it was not possible to receive credit from the cassava traders (F4).

Medium farmers have a varied experience with credit from cassava traders and the deals they provide. Three of the farmers had to pay no implicit nor explicit interest for the credit they received, which at least partly, seems to be because of the farmer's personal relationship with the traders. At the same time, one farmer did have to pay an implicit interest and several of the farmers did not want to borrow from the trader at all.

Large farmers (20-50 acres)

Mirembe, whom we met earlier is one of the large farmers. Overall, her experience with accessing credit from cassava traders was positive and she did not have to pay implicit nor explicit interest for the loan. This was not the case with all large farmers. Twelve large farmers were interviewed, five of them had accessed credit through cassava traders and two of them had to pay implicit interest for their cassava. It was the two farmers with 50 acres each who had to pay implicit interest.

Moses Adong (F2) was 67 years old and even though he seemed fit he carried a walking stick that was laid out across his knees during the interview. Moses gave the impression of being a serious person who was not afraid to speak his mind. Moses told me that he grew cassava, maize, sweet potato, and cotton. He lived with his wife and four grandchildren aged 4-26 and he grew cassava on 45 of his 50 acres, selling most of it for cash. If he wanted, Moses said that he was always able to receive credit in advance for the cassava. Moses explained that him and the trader would decide how much money he would get first (not exceeding 200'000 shilling) and that the price would be decided when the cassava was ready. He said that the price would usually be the prevailing price but continued to say that “*These traders will give me money with the hope of making interest out of it, so they will want more cassava compared to what I give them, because if they had not lent me the money, they could have been using the money.*”. He said that the trader could end up with 50% more than what he owed and that they would also try and cheat him, by fixing the scales.

Me and Moses also discussed if traders would give credit to anyone, but he did not think they would, he said that “*They first have trust in you, they don't just give to anyone.*”. I asked how one may gain that trust. He replied: “*It depends on the farmer's interpersonal relationship within the community, if they are good citizens, well known for good deeds.*”.

There were varied experiences with traders and the credit they provide even among large farmers, some having to pay interest while others don't. As shown through the example of Moses farmers did not think that traders would provide credit to anyone. However, one large farmer did think that traders would provide anyone with credit, saying: "*if anyone has a problem like I had (he needed to pay school fees) they can give you.*". I asked why they would give out credit if they didn't gain anything extra and he said that "*They don't care, because there are so many buyers, the competition is high.*". That there were many cassava traders in the area was mentioned also by others, however, he was the only farmer that said that the traders would provide credit to anyone.

Summary – differences, and similarities between groups

As mentioned at the beginning of this section, all groups of farmers needed credit. The different interviews showed the variety of things farmers need credit for. The most common reason is school fees which is something all groups of farmers borrowed money for. Farmers in all groups also borrowed money for labour although fewer of the small farmers did so. Small farmers did, to a higher degree, borrow money for necessities such as soap, or even at times food. No farmers in the other groups had to borrow money for food. Credit is to a large used for consumption smoothing, not to use as investments to maximise yields or profits, a point to which I will later return.

Access to credit, for farmers, is not only about if you are able to receive credit at all but also if you get to do so without having to pay any interest for it. As mentioned, friendship was one important factor in receiving interest-free credit. It is noteworthy that all small farmers who received credit had to pay interest for their loans whereas it was a mix among the medium and large farmers. This indicates that landholding size could be a factor in accessing interest free credit however this was not explicitly stated by neither farmers nor traders. Several of the farmers that did not have to pay interest said that they were friends with the traders they received credit from. Having a personal relationship with the trader or at the least, as Damba said be "*a long-time customer*" was quoted as necessary to access credit from traders by all groups. Trust was also brought up as an important factor if one was to access credit from traders.

There were farmers among all groups who refused credit from traders. However, small farmers reported, more than others that they did not take loans because they had no way of repaying the. The small farmer Akello, also pointed to the difficulty of receiving credit at all, due to the lack of a "*strong relationship*" with the traders. As Maria expressed, and as was conveyed also by Joseph, the farmers have "*a fear*" for credit from traders due to, what they view as, the exploitative nature of their deals. That traders would take advantage and demand lower prices, if farmers were desperate, was something that also Cathy brought up. Even the large farmer Moses

expressed that, if possible, he preferred other methods of taking loans, which will be discussed in the following section on other credit options.

Comparing female and male farmers it is worth noting that all farmers, except one, who had to pay interest for the credit from traders were female. Among the farmers who did not pay interest, two were female and the rest were male. Apart from this, there was no apparent gendered difference in for example, which farmers used credit from traders or how they described it.

5.2.5 Other credit options

As shown in Table 3, VSLA groups were the greatest source of credit for farmers. The reason so many of the farmers borrowed from VSLA groups may be that many were connected to NADIFA. Fewer of the small farmers were connected to NADIFA which might explain why few of them borrowed money from VSLA groups, an issue relevant to the discussion on access to credit. Many farmers had also borrowed from friends and/or family at some point although the amount of money was often not more than five thousand shillings. When asking farmers where they had borrowed money from, not all mentioned that they borrowed from friends and family. I would sometimes have to ask explicitly if they had borrowed from friends or family to find out. I did not ask all farmers this explicitly and have therefore not included the number of farmers who borrowed from friends and family in table 3. Farmers never paid any interest on loans from family or friends.

Small farmers (1-5 acres)

Out of the small farmers, one farmer (F28) had borrowed money from a bank but this was to fund his business as a goat trader and not his farming. He explained that he spent a lot of his time working with trading goats and would sometimes hire labour to help on his farm. Even if he only had five acres of land, the additional work meant his position was different from many of the other small farmers who didn't have large additional incomes. This is a good example of the variation that can exist between farmers with the same amounts of land and shows why it is important to not only consider landholding size when comparing groups of farmers. The rest of the small farmers had only borrowed from traders, VSLAs or friends and family.

Only one of the small farmers, Namazzi Biira (F15), whose husband worked for NADIFA, had borrowed from both a VSLA and traders (where she, as all small farmers, had to pay interest). When borrowing from the VSLA she paid 10% interest a month. So, for a loan of 100'000 she would pay 10'000 per month as interest until she paid back the loan in full. I asked her if she preferred to borrow from the traders or from the VSLA, she replied: "*Borrowing from the VSLA is better – you are never put on pressure to pay back.*". I continued to ask why she would then borrow from the traders: "*Because of the VSLA system, when a group sits on*

a Thursday, it is only on Thursday they will release the money, not any other day. So sometimes I might have a problem on Saturday, and I cannot wait until Thursday to get the money.”. Another issue with VSLAs that was brought up in the introduction, by Joseph, was that he did not trust the VSLAs because the funds are sometimes mismanaged, and that leaders in the groups take loans without paying them back.

Akello, the bricklayer, was on the committee of a VSLA where he would sometimes borrow money but the issue for him was that he could not borrow enough money from them. Akello and I also discussed loans from banks and SACCOs, but he was sceptical towards them: *“I fear the risks associated with loans, sometimes you have to have collateral security, and most of the time, I think, I might fail to pay back and that collateral security, the bank may come and take it all.”*.

Medium farmers

Most medium farmers had borrowed from VSLA groups. Two female farmers had also received loans from government schemes. Maria who did not accept credit from traders due to her fear of them did however receive credit from VSLA groups and had nothing negative to say about them. Another medium farmer who borrowed both from traders (without interest) and from the VSLA groups still preferred the VSLA because *“The VSLA will be patient with you, but if you borrowed from a trader, he will go around talking and saying that you borrowed from him and haven’t paid back.”* (F27). Just as Akello had expressed there were also medium farmers who thought that the amount one could get from VSLAs was too low: *“When I need access to loans, we are too many in our farmer group, so that money might not be enough for us all, so by the time I want to get a loan the others will already have taken it.”* (F13).

Large farmers

Among the large farmers only one had borrowed from a bank and two from SACCOs (semi-formal credit membership groups connected to banks). The farmer who had borrowed from a bank had only done so once. He borrowed 5 million shilling for one year and paid back “a bit over 6 million” which would result in a yearly interest of 20%, and a monthly interest rate of about 1.67%, which is much lower than the VSLA. The loan had been used for cassava growing (ploughing) and for school fees. The farmers who borrowed from SACCOs said it could be for a variety of reasons like farming or school fees. The loans from banks and SACCOs were only taken by male farmers. In one instance it was a woman who told me about the loan from the SACCO but it was actually her son who had taken out the loan for her.

Moses Adong (F2), the large farmer whom I talked about in the previous section, who had to pay interest for his loans also borrowed from VSLA groups at times.

He explained that he preferred the VSLA because *“It is a sure deal. These traders might come back and say they want their money, and they keep changing their ideas. We will normally have a conflict of interest – the farmer will not be wanting to give out extra – that is why we run to the VSLA.”* I continued to ask why he continued to borrow from the traders, and he also said that there was too little money for everyone to borrow in the VSLA: *“The line-up might be quite long, like if they are 30, all of them might want a loan.”*

Summary – differences, and similarities between groups

All farmers, from all groups, who borrowed from both VSLAs and traders said that they preferred to borrow money from VSLAs, even the farmers who did not have to pay interest. One issue brought up frequently was that the traders would put pressure on the farmers to pay back quickly and that they might give them a bad reputation, telling others that they have not yet paid back. In addition, as Moses said, the VSLA is a *“sure deal”* whereas the traders might try and get more cassava when settling the deal reflecting the uncertainty of the terms.

However, there were also issues with the VSLA. As was clear among all respondents, the VSLAs tend to have too little money to lend to everyone. Another issue was, as brought up by Namazzi, that the groups only meet once a week while emergencies can happen throughout the week. In addition, there is the issue that sometimes treasurers or leaders within the groups will borrow money and not pay back. Only a couple of farmers brought up this issue as a reason for not daring to join the VSLA. The issue was also brought up by both Cathy and the NADIFA extension officer (2) who gave an example of a group where the treasurer had said that the money had been stolen which was of course difficult to disprove but resulted in distrust from farmers.

The attitudes among farmers towards VSLAs and the issues they perceived with them were similar among all groups of farmers. Among my informants only large, male farmers had borrowed from formal, or even semi-formal institutions. Female farmers were however the only ones who had borrowed from government schemes. One of the small farmers expressed that they feared loans from SACCOs and banks because of the collateral needed. It is also worth noting that the farmers also used credit from VSLA, SACCOs and banks for consumption and not only for investments.

For the VSLA the interest rate was always 5-10% (depending on the group) of the original borrowed amount per month, until the loan had been repaid. The bank loan is comparable and can be calculated in similar way. But if we compare this to a loan from a trader, some had a 0% interest rate whereas if we take the example from Table 5 and calculate the interest when all cassava was bought at the pre-decided price the interest would be 50% for a two-week loan. If we are to compare it to the VSLA loans should the percentage be doubled? Questions such as these

make it difficult to compare informal to semi-formal and formal credit. Mainly because the loans from traders and the possible costs were much more uncertain. At the same time, it is clear that even if farmers preferred VSLA loans they could not always receive the credit they needed from there. So even if credit from traders is uncertain it can be the only option the farmer has.

5.3 Traders

This section will cover the interviews and findings from the traders. Findings to answer research questions: “*Who are the traders in the cassava value chain in the Lwabyata sub-county and how are they connected to each other and other traders?*”, and “*How is access to credit for both traders and farmers regulated?*” will be presented. As mentioned in the method, traders are divided into small and medium traders. The reason for this is that the medium traders also sold their cassava to other traders, who can then be seen as “large traders”. However, the medium traders themselves referred to these large traders as “top buyers”. Small traders mainly trade within Lwabyata, although they sometimes sold directly to large traders from cities like Luwero who came with trucks to Lwabyata. Medium traders buy cassava from the smaller traders (in addition to directly from farmers) and sell the cassava to traders from bigger cities like Luwero and Kampala. A few medium farmers would also process cassava chips into cassava flour and sell the flour to wholesalers in Luwero and Nakasongola town. Another difference is that all the medium traders had storage facilities and that when they sold to bigger traders, they would have direct contact with them and sell whole truckloads of cassava chips, sometimes organizing the transport themselves. Smaller traders would only sell cassava chips to these large traders if they happened to pass through. Both trader number five and six mainly sold cassava to trader number one. All traders were men as we could find no female traders which seems to correspond to the reality that most or all traders are men.

As with the farmers, the findings will be partly presented through specific interviews. Two traders will mainly be presented, one medium trader, John (T3), and one small trader, Jjuma (T5). John was a talkative and vibrant person, describing a lot of what he did in detail and since the trader’s reports were more consistent than those of the farmers, John will be used to speak for trader’s practices. However, any alternative viewpoints will also be presented. Finally, Jjuma will be presented to showcase the experiences of the smaller traders.

5.3.1 Booking cassava

I met the trader John Kigoma (T3) in a small trading centre in Lwabyata, we were seated on the porch of a small cement house so that its shade covered us from the

sun. It was late afternoon and even if the rains had begun the ground around us was dry and red. John was 29 years old and lived in a small trading centre in Lwabyata with his wife and two children. John was also a farmer and grows food for both consumption and cash on three to four acres of land. Apart from this, and working as a medium trader, he was also a chapati maker¹². John would mainly buy cassava chips but sometimes he also bought fields of cassava. He would then hire labour to uproot the cassava and sometimes also to chip and dry it. This was more laborious and uncertain as he did not know the quantity or the quality of the cassava beforehand. John said that he had once made a loss but usually, it led to higher profits than buying the chips.

I asked John if he could explain what his job as a cassava trader looked like: *“After I am done with my farming, I reach out to the farmers. I book cassava so that I will be very sure that when I come back my cassava will be there because we are many traders. If you don’t book you will find that another trader has already taken it.”*. He explained that this was good for the farmers too since they often needed the money in advance. I asked how much he would usually give the farmers and he said that it partly depends on how much the farmer needs but it also depends on his own estimation: *“Someone can take you to the garden where they are going to uproot the cassava and you look at the garden. The farmer can tell you that ‘this part is for food, this other part I will chip.’. Then I estimate how much they will get from there, if I estimate at 100 kilograms, that means, when the prevailing price is 1200, I will calculate the cost of 100 kilograms and give him half of it.”*.

This is how all the traders described the process of providing credit, both medium and small. They would go out to the farmers to first make an estimation of how much they could produce and then give them credit accordingly, most often they said that they would provide 70% or 50% of what they estimated the cassava chips to be worth.

Since I had heard from farmers that the traders expected them to also sell the rest of their cassava chips to the same trader that had extended them credit I asked John if this was the case, he said that: *“It is hard if someone who you negotiated with, and you gave them your money as ribon, and then they change their minds and sell that cassava, or part of it, to another trader. They should, give you the 100 kilograms that they owe you and the rest should be sold to you at the prevailing price.”*. The other traders also expressed similar ideas saying that, for example, the profit is very low if they only get, 100 kilograms of cassava. It is also noteworthy that John uses the words *“change their minds”* as it implies that the rest of the cassava was already part of the deal, something that some farmers also expressed.

¹² Chapati is a type of bread made from wheat flour, water and sometimes eggs common as a side dish or breakfast in East Africa. Most likely inspired by the Indian chapati which is also a bread made of wheat flour and water although it is smaller and a different consistency.

John said that the farmers would first pay off the credit and then sell the rest of it “*at the prevailing price*” so I assumed that the price decided when the credit was given would remain the same even if the prevailing price changed. I still asked John what would happen if the prices changed during the time the farmers held the credit and he explained that if the prices decreased: “*It is a negotiation, you have to explain ‘that you know by the time I gave you my money, a kilogram was 800, but now I’ve come when cassava is floating on the market and the price is 500’, so the farmer will also weigh it out, they will have to give me extra cassava, we have to balance the loss between me and the farmer, the farmer will say ‘okay I’ll cover 50% of the loss and you cover 50% of the loss’*”. I was surprised that he provided an example where the prices decreased since none of the interviewed farmers had experienced this so I continued to ask if that applied also if the prices increase, he replied: “*You cannot just take it at the price from when you gave the advance, you have to estimate and say ‘okay, by the time I was here it was 800 but now it is 1000’, so you also give him some extra money to cater for the increment’*”. This is how most traders described the process, most of them saying you would use the new, prevailing price.

Only two traders (T4+T7) said that the price decided when the credit was given would not be changed. One of the other medium traders, said that if the prices increased “*there will be some who can get the information easy, and they can raise complaint but others they do not*” (T2) indicating that the trader would only increase the price if the farmers complained about it. Apart from variation from price fluctuation the traders also said that they would pay higher prices for cassava in bulk and if it was very good quality¹³. John would not buy cassava from farmers that had less than 100 kilograms of cassava chips.

I continued to ask if John wanted some sort of interest on the credit that he provided the farmers and he said that if he provided a farmer with 100’000 shilling he would want cassava for an additional 10’000 shilling. Another farmer (T4) said that if he had given 100’000 shilling he would want an additional seven kilograms of cassava. Two of the smaller traders (T5+T6) said that they would only receive extra in case the farmer gave it willingly but that it was not part of the deal. The other three said that they did not want anything extra.

5.3.2 Extension of credit to farmers

Since there are no formal contracts for the credit provided, I asked John what would happen if the farmer did not pay him back, he said that: “*What I do, I have someone,*

¹³ Many farmers dried the cassava directly on the ground making the cassava chips dusty and the flour produced from it would contain small pieces of sand. This was something that several traders complained about as large traders preferred clean cassava chips.

the one we call the go-between, like a witness from that farmers family, then I have also my next of kin so if you don't pay back my money, the witnesses will testify". He explained that he would go to the chairman in LC1¹⁴ who, if they could not help settle the dispute, would refer it to the police. A couple of traders did however convey that going to the authorities was not always easy because they were family or lived in the same village as the farmers. The small trader Jjuma said this when asked what he did if the farmer didn't pay back: *"Most of those people are our relatives, so that means we keep on being patient, but if it wasn't your family and you feel they will not give you your money you will have to go to the authority"*. This indicates that there is a sense of community among traders and farmers which hinders traders from reporting farmers to authorities. No traders nor farmers reported that land, nor any other property, would or could be used as collateral, the cassava itself being the only collateral.

One of the traders had not experienced this issue but he was very clear that he only gave credit to farmers that he knew very well. The other traders were a bit more open with whom they would provide credit to, but they were still clear about the fact that they would not give it to anyone. For example, when I asked John what the largest amount he would give someone was, he said that it would depend *"on the trustworthiness of someone, when somebody is trustworthy and will be able to give the cassava that I require, then I can give a maximum of 500'000"*. Jjuma explained it in a similar fashion and when I asked him what it would take to become a trusted farmer, he said that someone he already knows would have to recommend the new farmer and that he would then proceed to give the credit to the person who recommended him and he would act as their go-between. Another trader said that he would provide the farmer depending on their relationship and that *"There are those people whom I have known for so long, for them I have trust."* (T5). All traders described it in a similar way, with trust being one of the key words used to describe the relationship, or that they should be friends and have known them for a long time. Only one trader (T7) said that he would provide it to anyone who asked for it if he could see that they were in the process of harvesting or chipping.

5.3.3 Large traders and credit extension

Since it was clear that a rather large amount of money was needed to provide the farmers with credit, I asked John where he would get the money from: *"It is sometimes my own capital, but I also connect to the top buyers that come here with vehicles to load everything, they also give me money. Like they can give me 2 million, I only book with 1 million, the other half I use to buy directly from farmers."* At least 3 medium traders received credit from large traders. One of the medium

¹⁴ LC1 (Local Council 1) is the first level of government authority that has mandate over the village level, for a case to be taken to the police the chairperson of LC1 would have to refer the case to the police.

traders (T2) said that he did not get credit from buyers in Luwero and Kampala but it was unclear if he received credit from other large traders. For the medium traders that did receive credit, they would only use part of the money to give as credit and part of it to buy cassava directly. John explained that *“I ensure that within 2 weeks I have the cassava and if I fail that means I will give him the 50% and tell him to wait another week whereby I give him the other 50%.”* By only using half of the extended credit to farmers, he could ensure that he would at least be able to give the big trader half of the promised cassava in time. This was a way for the medium trader to maintain trust with the large trader and show that he is responsible, something that we return to later.

One of the traders had also borrowed money from a VSLA to fund buying cassava but when asked if he preferred that or borrowing from big traders, he had mixed feelings: *“It depends, the top buyers will not need any profit, but then they will not let you use it for 3 months.”* All medium traders agreed that the large traders would let them keep the credit for around 2 weeks.

John also explained that the prices he offered the farmers depended on the price he received from the larger trader: *“If we agree that he will buy at 1000 per kilogram, I will go to the farmers, buy from them at 800, so that after giving them their cassava I also have my profit.”* I asked what happened if the price increased while they used the credit, but John did not seem to think that this was a big problem merely replying that if the price increased, the large trader would know, and they would re-negotiate. If they could not reach an agreement the big trader might tell him to find someone else to sell the cassava to and instead return the cash to the large trader. The other medium traders also explained it in a similar way. However, one trader (T2) said that because he himself does not have enough funds, the bigger traders would come and wait around, pressuring the medium trader until he agreed to their terms.

From what the medium traders told me it doesn't seem like the large traders want any explicit interest on the credit although all traders agreed that it is the larger traders that set the prices. The large traders would however not provide credit to anyone. John said: *“That trader must trust you. If they have come and bought at your store like three times, the fourth time they will give you money because they will see that you are someone who is responsible.”* The other medium traders explained it in the same way, emphasising that they must trust you and that they would need to buy from you without providing credit the first times. This would mean that the trader would need to have enough of his own capital to first buy cassava from the farmers.

5.3.4 Small traders

Jjuma Tugume (T5) is a small trader. The small and medium traders experience with providing credit to farmers was rather similar and has already been covered.

Experiences specific to small traders will mainly be described here. As mentioned, two of the small traders, including Jjuma, mainly sold his cassava directly to one of the medium traders (T1). Jjuma was 29 years and had been trading in cassava for the last 10 years. I asked him if it was difficult when he first started working as a trader. He said: *“It was so difficult for me, at the start of the business it wasn’t easy, but I could always collaborate with my fellow traders for example (Trader 1) and others, they would always sit on a round table and discuss on the failures, achievement, and what to do about it”*. One of the biggest challenges had been that he only had a bicycle in the beginning making the work of transporting bags of cassava chips heavy, but now he has managed to buy a motorbike making the job a lot easier.

In many ways, his job as a trader was similar to that of the medium traders. One difference was that the credit he extended to farmers would be provided by the medium traders, in his case, specifically Trader 1. When receiving the credit from the medium trader they would agree on the price and Jjuma would go to the farmers to buy directly or provide credit. Since his price would already be decided he would try and negotiate with the farmer to get a lower price but *“in most cases the farmers know the prices, like the prevailing prices, they will not give me a discount, my profit is normally given from these other (medium) traders.”*. Sometimes Jjuma would also use his own capital to buy cassava chips or provide credit. He said that he sometimes borrowed from VSLAs but added that: *“Sometimes you go and borrow from a group but when the interest is high you cannot even do what you want to do, because when you give it to a farmer, he might make me wait for my cassava while the interest accumulates, so you would rather use your own money.”*. The other small traders would not borrow from VSLAs, only sometimes from friends or family, and Juma’s explanation may be part of the reason informal credit was preferred. The youngest trader, who was only 16, had been working as a trader for 18 months already and mainly received money from his father who seemed to be a medium trader. His father was also the one who would sell the cassava onwards to other traders. He was rather shy and not as outspoken as the other traders but said that it was a good job and easy since he had been doing it with his father since he was young.

Jjuma would not only sell to the medium traders but would sometimes also sell directly to traders who came with trucks from Luwero or other places if their prices were higher. However, he made it clear that if he did that he would *“go back and bring more cassava for (Trader 1), remember you are using his money.”*. Even though they made more from selling directly from these larger traders they could not always do so because they would only come around occasionally and would want large quantities which was not easy without storage. It seems that small traders therefore had to put effort into maintaining a good relationship with the medium traders since they would inevitably have to return to them.

5.3.5 Cooperation among traders

All traders, both medium and small said that they cooperated and worked with other traders. Jjuma said that if there were farmers with a lot of cassava, they would share the cassava amongst them. His explanation of how he and bigger traders would sit together and learn from each other and discuss issues together also showed that they cooperated. One of the medium traders (T1) said that there were about 20 other medium traders in Lwabyata, and he also said that he knew them all. When it comes to the small traders all of them do most likely not know each other as one trader said that there were around 700 of them in just one parish. One of the small traders explained that they would help each other with transport and even lend each other money. With regards to some farmers complaints, that the traders collude over prices, this does seem to be the case as one trader said *“it is a must do because we are one, there is that unity, amongst us and if it is deciding on reducing the prices, we first sit then we argue and agree.”* (T6). This was a response when asking generally if the traders cooperated, I did not ask right out if the traders colluded since it may have offended them. Finally, even if medium traders often sold to the larger traders, they would also sometimes sell to each other, blurring the lines between the types of traders.

5.3.6 The absence of women traders

As mentioned, none of the traders were women. When I asked one of the female farmers (F31) if there were any female traders she said: *“No, they are only men because the money they cannot manage, the transportation, the loading, for women we go for these easy things, like pancake making, like making malwa¹⁵.”* As mentioned earlier only female farmers reported selling cassava at marketplaces, showing a clear divide between the different roles women versus men could take in the buying and selling of cassava. Selling cassava tubers at the market, or even having your own small store as at least one female farmer had, cannot generate as much income as working with cassava trading meaning that the options for women within cassava production and selling in Lwabyata will lead to a lower income

5.4 The credit and cassava markets in Lwabyata sub-county

Figure 3 presents an overview of the exchange of cassava and informal credit relations within cassava markets in Lwabyata sub-county as reported by respondents. To make the figure easier to read, medium and large farmers are grouped together since they share more similarities. The figure also suggests that

¹⁵ Malwa is a local alcoholic brew made from cassava flour, maize flour, and germinated millet.

there are clear categories of actors such as “farmers” or “millers”, but in reality, these lines were blurred. For example, almost all respondents were farmers to some extent. What the figure does make clear is that the cassava markets are complex, filling a variety of functions. Cassava is used as a cash crop, but it is also used as payment for labour, making it intertwined with labour markets. This points to the fact that labour markets are not completely monetised within Lwabyiyata even though cash was also used to pay for labour among respondents. The figure also shows the intrinsic role of informal credit within the cassava markets described by informants. What it fails to show is that credit can also be used to pay for agricultural labour. All farmers (except one) needed credit and cassava was one way to access it. For traders to be able to book cassava it was necessary for them to access credit through other traders. Other credit options existed but were not considered favourable. It therefore seems, as this figure indicates, that the entire production, buying, and selling of cassava in Lwabyiyata was dependent on informal credit.

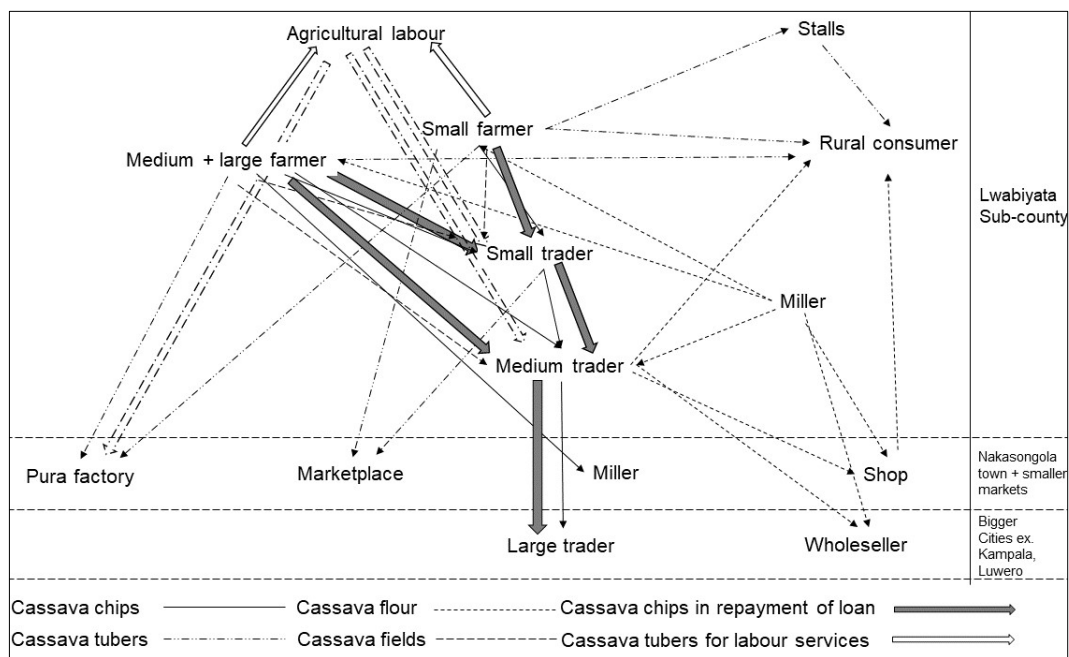


Figure 3. Exchange of cassava and informal credit within cassava markets in Lwabyiyata sub-county.

6. Discussion and conclusion

As outlined in the introduction the aim of the study has been to provide a deeper understanding of cassava markets in Lwabyata sub-county in Nakasongola District, Uganda with a focus on how access is regulated, especially through credit. The specific research questions have been answered in the previous sections, but these answers will be further elaborated in this section of the thesis. Here I return to the fundamental practical and research related problem of how agricultural markets function and the extent to which credit forwards capitalist relations. This discussion will relate to previous research and theoretical propositions to show how findings in this study can contribute to the ongoing theoretical discussion on understanding real agricultural markets. It is however worth pointing out that some of the concepts used are extensive. The empirical data provided in this study cannot fully support nor disclaim different theories but only add small pieces to a much larger puzzle.

This study has identified several constraints to increasing returns for farmers in cassava markets in Lwabyata sub-county, including:

- a) The farmers' need for risk minimisation and for meeting consumption needs
- b) Collusion among traders
- c) Volatile markets
- d) Access to credit shaped by social relationships not available to everyone
- e) The farmers need for credit to smooth out consumption and the compulsion to engage in certain markets to access credit

6.1 Market engaged but subsistence inclined

Farmers in Lwabyata sub-county face several uncertainties related to their farming. All farmers face uncertainties when it comes to weather conditions but in a place like Lwabyata, where droughts are common, this uncertainty is even more pronounced. In addition to this, as previously discussed, the prices of cassava fluctuate considerably creating a volatile market, adding to the uncertainties the farmers face. As cassava is the main cash crop for many of the interviewed farmers

a bad harvest or fluctuation in prices could be devastating for a farmer, threatening his ability to feed himself and his family. In this regard, the farmer is subsistence inclined, that is, he must first and foremost make choices that ensure his survival. According to Scott (1977) and theories by Chayanov (van der Ploeg 2014) this is one important factor in understanding the farmers' rationale and reasoning.

Let us revisit the way that the farmers planted cassava, that is: 1) the staggering of planting, 2) the disinterest in yield maximisation, and 3) leaving cassava in the ground for up to two years (even if he could have planted and received 2 yields in the same season). These strategies begin to make sense if one considers that the farmer's goal is subsistence security and risk minimisation. Another example is the reluctance of some farmers to add value to cassava by making flour as the risk of a buyer falling through is too big. This may also help understand the reluctance to use credit that requires collateral, even if the interest rates are low and the terms of the loans are more straightforward compared to a trader loan. If the farmer fails to pay back, they will lose “capital” (such as land) that is necessary for their reproduction. For a capitalist enterprise ignoring principles of profit maximisation may cause bankruptcy whereas, as highlighted by van der Ploeg (2013) the peasant farmer can “work longer hours, sell at lower prices, obtain no net surplus, and yet manage to carry on with their farming, year after year” (16). When considering the sometimes very low, returns of investment, that farmers received when using informal credit, this still makes sense from this perspective as leaving the land unused (if they use credit for labour), or not having enough food to eat, would not provide the farmer with any use-value even if it is a “bad deal”.

While seeking profit maximisation may cause bankruptcy for a capitalist farmer, completely engaging in volatile commodity markets could lead to the demise of a peasant farmer. At the same time there is a necessity among farmers to obtain cash to meet basic needs and reproduction goals and this may push a farmer engage in commodity markets (or engage in other income generating activities). The farmer is therefore both part of the capitalist system yet, at the same time “operates in a way that often is distinctively different from the way in which capitalist farm enterprises are managed” (van der Ploeg 2014, 15). The strategies explained above are examples of this and the use of mainly family labour, especially among small farmers, is another factor that separate them from a capitalist unit of production. At the same time farmers show price sensitivity. In common with farmers in marginal mountain economies of Afghanistan (Pain, 2023), this reflects a prioritisation of meeting reproduction goals rather than profit maximisations.

The farmers' inclination towards a rationale based on meeting household reproduction needs rather than profit maximisation challenges Gerber's (2014) second thesis that debt shapes capitalistic mind-sets. His initial observation that the farmers' dependency on credit forces them to produce cash crops and that, due to the costs/interests of credit, they must also produce surplus value to cater for the

cost/interest is partly true for farmers in Lwabyata. However, the farmers' inclination towards risk minimisation compared to profit maximisation and short-term profits would suggest that credit has not fostered a capitalistic mind-set among these farmers.

6.2 Credit as a driver for profit maximisation

Due to the seasonality of farming the farmer will often need cash during the months where he has little else to sell. Farmers use credit to smooth out consumption in these cashless seasons. The credit extended for cassava, as an advance payment, can create a dependency, almost a form of addiction as Gerber (2014) phrases it. Even if the farmer escapes the debt, a medical emergency could quickly throw him back into it.

No farmers reported using credit to buy any form of technologies or inputs for cassava production. The closest farmers came to investing in technology for cassava production was that a few large farmers had rented tractors occasionally. This is in line with Gerber's (2014) observation that smaller farmers spend more on basic goods whereas medium to larger farmers spend more on sustaining their production. However, among respondents in this case, all medium and large farmers also spent credit on consumption smoothing, especially school fees. Gerber (2014) also notes that large farmers use credit to *increase* their production however, as discussed in the findings, no farmers reported using any methods to increase the yields of cassava. Large and medium farmers used credit for labour or ploughing of their existing land to a larger extent than small farmers but there was no indication it was used to increase production in the form of yield increases. It therefore seems as if credit does not push a capitalist mind-set of profit maximisation among the cassava farmers in in this study, again challenging Gerber's (2014) thesis. There may however be other indications of this that have not been covered in this study due to the limited scope of the study.

6.3 The traders' access to credit

Informal credit systems are intrinsic to the buying and selling of cassava chips in Lwabyata. The use of formal credit to fund cassava trading among interviewed traders was minimal. This is most likely because of the interest rates of formal loans whereas the informal credit extended by large traders did not seem to have any extra costs for the medium trader. Looking at the situation of cassava traders in Lwabyata through the framework of access developed by Ribot & Peluso (2003) the small and medium traders both control and maintain access to credit and are, at the same time, both in a dominant position as well as a subordinate one. Small traders must

maintain access to credit extended by medium traders while controlling the access of farmers. Medium traders need to maintain access to credit from large traders and control the access of farmers and small traders. This is also in line with what Ali Jan & Harriss-White (2012) point out, that traders are not a “homogenous mass”.

Mechanisms to maintain access among traders seemed to be socially regulated, mainly based on trust. Social relationships are one of the categories that Ribot & Peluso (2003) mention that can be used to manage and regulate access. As described, large traders would want to first get to know the medium traders and buy from them a few times before trusting them. The importance of trust and maintenance of these relationships is supported by the efforts put in by traders to respect their deals with other traders, maintain their reputation, and keep their trust. The example given previously where a small trader, in case he found another buyer with a better price, would ensure that he still could provide cassava for the trader who extended him the credit in the first place could be seen as a way to maintain the relationship and his reputation. As noted earlier medium traders would only use half of the credit they had received to extend as credit to farmers (and use the other half to buy cassava directly). This could also be seen as a mechanism used to maintain the trust of the large trader who extended the credit.

Due to the absence of female traders is clear that there are gendered structures in cassava markets, with men and women granted differential access to cassava trading systems. Gender has not been a main analytical point in this thesis but the gendered structures can be seen as a form of exclusion that needs further study.

6.4 The farmers' access to credit

This case study indicates that farmers' access to informal credit within the cassava market was regulated by social relationships in accordance with the theory of access outlined by Ribot & Peluso (2003). There are similarities to the way that access to credit is regulated for traders. However, for farmers, there seems to be, in addition to trust, a larger focus on more personal relationships such as friendship and the farmers' reputation. The importance of friendship was highlighted by farmers who clearly stated that to access credit at all you should be a “*long-time friend*” with the trader but also from farmers who did not have to pay any type of interest or cost for the credit they received and explained it by stating that they were friends with the trader. Another farmer mentioned that to receive credit from traders one should be a “*good citizen, well known for good deeds*” indicating the importance of reputation. All these factors, friendship, responsibility, and trust were also highlighted as important factors among the traders for extending credit to farmers. In addition, landholding size may be a factor in accessing interest-free credit although this was not explicitly stated by any farmers.

The reason friendship isn't as accentuated in trader-to-trader relations is most likely because of the geographical distance between large and medium traders making it less likely for them to have formed friendships. The reputation of a trader is also more difficult to ascertain from a distance and more emphasis is therefore likely put on trust. This is in line with what Ribot & Peluso (2003) discuss, that changes in context, such as a geographical one, create new relationships and mechanisms to gain, maintain and control access. As traders venture out of their villages or districts, they need to form new types of social relationships that, in this case, are mainly based on trust.

As discussed previously, farmers said they preferred to receive credit from semi-formal VSLA groups which seems mainly to be connected to the uncertainty of credit from traders which makes sense for the risk-averse farmers. However, VSLA loans had limitations in the amounts of credit they could extend, and it was only possible to receive credit once a week. Some farmers were not connected to VSLA groups at all. This raises the question of access to VSLA groups. As NADIFA staff explained, all the farmers they worked with were in VSLA groups. When trying to reach farmers with different landholding sizes it was clear that NADIFA had less direct contact with small farmers compared to medium and large farmers. This is also noticeable in the findings as fewer of the small farmers were in VSLA groups compared to medium and large farmers. This could indicate that connection to an NGO, which in turn seems to be affected by landholding size, could be a factor in accessing credit from VSLA groups. It seems as if small farmers both had more difficulty accessing semi-formal credit through VSLA groups and accessing interest-free credit from traders making their situation more precarious than for other groups.

Gerber's (2014) fourth thesis claims that debt drives the evolution of capitalism, as a form of social Darwinism, picking out those most suited to fit into the mould of the "economic man". One of the points Gerber (2014) makes in this argument is that people who extend credit choose whom to extend credit to, based on virtues fitting a capitalist. However, within cassava markets in Lwabyata, access to credit, for both traders and farmers, rather seems to be based on social relationships such as friendship and trust, and perhaps to some extent, landholding size.

Another point that Gerber (2014) makes is that credit resulted in more creditors reporting unpaid debts to the authorities. With regard to informal credit in Nakasongola there seems to be a mixed outcome. On the one hand, some traders said that they would go to the authorities in case a debt was not paid but at the same time, some said that they would not report people as they were family or lived in the same village. This second reasoning seems to be more in line with a moral economy where social bonds may be valued higher than profit maximisation. Not out of charity but because social bonds seem to be important for meeting reproduction needs as this study has shown to be the case within credit but also

farming in general (to get help from neighbours when farming or receiving free seedlings) among the interviewed farmers.

6.5 Fractured markets

In contrast to what is assumed by FAO strategies outlined in the introduction, cassava markets described by respondents in this study do not seem to function according to capitalist market principles of supply and demand, and nor is there price competition. The constantly fluctuating prices that were described earlier cannot only be explained by idealised market mechanisms. At least part of the explanation for the volatile market is most likely collusion among traders of cassava chips. This is compounded by the farmer's limited options when it comes to selling cassava. Collusion among commodity traders has been found also in research on both onion and potato markets in Afghanistan and rice markets in India (Ali Jan & Harriss-White 2012; Minoia et al 2015; Pain 2023). In line with what Ali Jan and Harriss-White (2012) argue cassava markets in Lwabyata are partly shaped by non-market institutions, in this case, colluding traders. To what extent there is collusion among larger traders is beyond the scope of this study however reports from medium traders suggest that this may be the case. The regulation of prices by traders suggests that prices are not solely formulated through mechanisms of supply, demand, and efficiency as is assumed by neo-classical models of the market.

The section on cassava markets showed that interviewed farmers are aware of prices provided by traders but due to collusion, there is no actual price competition. This points to how farmers are constrained in the choices they can make and even if they are not physically forced to accept the deals of the traders many will, *de facto*, be forced to accept the prices proposed by traders. One solution often found in value chain analysis, including the FAO project, to poorly functioning markets is to increase integration of markets (*i.e.*, competition) by improving information flows. For farmers, this would entail providing them with better price information. However, this study indicates that farmers are aware of prices but due to colluding traders and their lack of options they have no choice but to accept the prices provided. Instead of a market shaped by information smoothly running up and down a value chain, we find a fractured market where informal institutions play a role in the regulation of prices creating a situation where farmers cannot act on price information even if they have it.

Gerber's (2014) fourth thesis: that debt drives the evolution of capitalism, has already been discussed but it is worth bringing up the second point of Gerber's argument around this thesis. The argument he makes is that because of debt people are forced to compete in commodity markets and through this competition only those most well suited to the capitalist endeavour will prevail. Farmers are in a sense "forced" into commodity markets due to their need of credit. However, due

to the apparent lack of competition within these markets it would not be correct to claim that the farmers compete within the market, at least not according to rules assumed within neo-classic economics. The persistence of collusion among traders in the cassava market in Lwabyata may therefore, at least in part, explain why credit does not drive capitalist rationality as Gerber suggests.

6.6 Why informal market institutions persist

According to Ali Jan & Harriss-White (2012), agricultural market systems encompass a wide range of firm types that coexist and persist, rather than moving towards convergence. This diversity is evident in the credit institutions within the cassava market of Lwabyata sub-county. Formal, semi-formal, and informal credit institutions all play a role in meeting the farmers' credit needs. However, due to shortcomings of the formal and semi-formal credit systems farmers are forced into credit relations within the informal market. Consequently, traders gain leverage in dictating prices, placing farmers in a vulnerable position. The necessity of the informal credit systems, driven by farmers' limited alternatives and traders' preference for them, indicates that these systems are likely to persist. That the informal credit systems do not require any form of collateral (apart from the crop itself) also contributes to the persistence of these informal credit institutions as formal loans demand the farmer use their land or property as collateral. As one farmer pointed out, this is the reason he did not wish to receive loans from formal credit institutions.

Reciprocity among respondents, involving mutual assistance in farm work such as freely lending oxen to friends, and freely giving out seedlings, is another non-market institution rooted in social relationships. Reciprocity does not confer with the self-serving, profit maximising farmer outlined by Gerber (2015) but is rather in line with, the risk-reducing farmer who works to fulfil his reproduction needs (van der Ploeg 2014; Larsson et al. 2022). These institutions are likely to persist as they better serve farmers' need for minimising risk than market mechanisms would. For the interviewed farmers to be able to meet these reproduction needs they must invest in social relationships with others. Maintaining reputation and trust become vital both within informal credit institutions but also within other non-market institutions. So when FAO suggest that farmers should increase their profit by charging for services currently provided for free (FAO Uganda 2023) this is at odds with the survival strategies of said farmers which explains why these type of interventions may fail.

6.7 Implications for the FAO project and institutional bricolage

Some of the assumptions made by FAO concerning the functioning of the cassava markets and the farmers' rationale within Lwabyata, Nakasongola, are challenged by the findings from this study. The complete ignorance of current, non-market institutions and the way they intervene in formal institutions is very likely to make the introduction of new institutions such as credit providers difficult. This general conclusion resonates with that of Pain (2018) who demonstrated how these processes of institutional bricolage developed by Cleaver (2013) affected project implementation. Pain (2018) showed, in his study of a World Bank project in Afghanistan, that the introduction of new institutions (specifically “community development councils”), without consideration of the dynamics of informal networks, will inevitably have unexpected results. Instead of new institutions replacing old ones, new institutions became integrated into the older ones, incorporating older forms of authority and legitimacy in a way that substantially altered the way they functioned.

As reported by respondents in my case study it seems that current institutions in Lwabyata are heavily embedded in social relationships and the maintenance of reputation and trust is therefore vital. One example in Lwabyata is the attempt at making some farmers grow and sell seedlings to other farmers, however, both interviewed farmers that had tried to do so said that it was difficult because many expected them to give the seedlings away for free. And as argued in the previous section of the discussion such change is at odds with the general understanding of reciprocity anchored in a need to mitigate risk associated with farming. This is a good example of how institutions of non-market exchange make it difficult to introduce new institutions that do not adhere to existing dynamics. How, and to what extent, processes of institutional bricolage would come about are however difficult to determine from this study. The data in this study is not comprehensive enough and does not cover the multiple factors contributing to the processes outlined by Cleaver (2013).

The FAO anticipates that new credit institutions will enhance farmers' productivity by facilitating investments in agricultural activities. This, in turn, is anticipated to yield positive effects on the returns farmers receive within the cassava market. However, this study, have shown that farmers do not mainly use credit for agricultural investments. Larger farmers use credit to hire labour to some extent, but no farmer considered using inputs or buying technology to increase cassava yields and maximise productivity. If farmers do not choose strategies that are aligned with profit maximisation it is unlikely that commercial production of cassava will develop in the way that the FAO is expecting, and thus their strategies for reforming the agriculture is likely to fail. Even if farmers do act according to

the logic of profit maximisation, they may be restricted in their ability to compete in the cassava market due to the high levels of social regulation that were found in this study. Overall, I argue that ignorance of current institutions and their underlying structures makes the introduction of new credit institutions precarious.

6.8 Conclusion

Through evidence gathered in my case study, among farmers and traders in Lwabyata sub-county in Uganda, Gerber's thesis, that credit drives capitalist relations, do not seem to be fully applicable. Instead, the cassava markets of Lwabyata described by respondents in this study correspond to the fractured markets explained by Ali Jan & Harriss-White in their studies of Indian rice markets (2012). The theories and thesis by both Gerber (2015) and Ali Jan & Harriss-White (2012) are however much more far reaching than the scope of this study and it is important to note that my data only focuses on some parts of these theories. The Lwabyata cassava markets are based on an interaction of formal and informal rent-seeking institutions that control the market through price manipulation. Access to credit seems to be based on institutional frameworks where social relationships is a key resource and the main mechanism to access credit. Based on this insight this thesis has extended the framework by Ribot & Peluso (2004) by applying it to credit relations. As such, farmers are not hindered by a lack of formal credit institutions but by how these relate to the values and the current practices of farming. Farmers are hindered from increased returns due to erratic markets, collusion among traders, uncertainty leading to the need for risk minimisation, and hinders in accessing credit. Farmers continued cultivation of cassava can perhaps be explained by a Chaynovian perspective where farmers are driven by the need for cash to meet basic reproduction needs and cassava's role in meeting that need. This thesis provides an in-depth empirical example of how an agricultural market functions and how farmers and traders within the market reason. In addition, the study has contributed to the theoretical discussion on agrarian change, specifically if credit drives capitalist relations. The study concludes that understanding the farmer's motivation and the current institutional framework will be vital for the success of future development projects.

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Popular science summary

The outdated economic man and his attempt to reduce poverty

“No poverty” and “zero hunger” are concepts that most of us would sign up to. There is actually so much global unanimity over the two concepts that they are the two first goals in the global Sustainable Development Goals, developed by the United Nations. With so much unanimity one would assume that there is also a plan to achieve said goals, that everyone can agree upon? Sadly, I am here to inform you otherwise. You probably did not think that removing poverty or hunger would be a simple thing to do. Nevertheless, most often it is assumed that the main issue is about raising capital for the endeavour. And that is definitely part of it. However, through a study in central Uganda, I show that the methods used by the Food and Agricultural Organisation (FAO) of the United Nations to fight poverty and hunger, may actually not be successful, independently of how much money we pump in.

Solutions proposed by the FAO are built on certain assumptions. The first assumption concerns how people think. These are based on the idea of the “*economic man*”, the fantastical capitalist who always acts rationally and in accordance with his best (economic) interest. This man is a capable entrepreneur who takes calculated risks and builds his fortune from hard work. Imagine being a small-scale farmer in central Uganda, a place prone to droughts and with basically no social security nets, where a bad harvest, or the sudden shift in food prices could cause the demise of yourself and your family. The idea of taking any type of risks in such a precarious situation is most likely not very tempting. According to “rules” of profit maximisation it would make more sense for the farmer to specialise in one crop, but for the farmer who completely depends on that one crop, the risk is, understandably too high.

The second assumption is about how agricultural markets work. I am sure we are all aware of principles of supply and demand and that these shape prices. However, this is not how all markets work. This study showed that traders controlled the cassava market through price manipulation. In addition to this it was apparent that the whole system of buying and selling cassava was dependent on loans. Because the farmers are so vulnerable, they often need to borrow money to be able to cover their living costs during the low seasons between harvests. Traders would sometimes pay farmers in advance for the cassava but whether or not farmers

could get these loans, and the interest they had to pay, depended on the social relationships they had with the traders. For example, the farmers would need to be friends with them or have a good reputation. Basically, very different from bank loans.

The FAO is also concerned with credit, they want to introduce new places where farmers can get loans for investment in agriculture. As you might already have guessed there are some issues with this. As mentioned, farmers don't use credit for investments but for consumption meaning that if farmers got credit, they wouldn't use it for what FAO thinks. In addition, credit from banks demand collateral and the risk of losing, for example, your land which is the only source of livelihood for some, is simply too big. And even if they did take loans and use the credit for investments, it is not guaranteed that farmers could participate in these markets because access to the intertwined cassava and credit markets are based on social relationships of friendship, trust, and reputation.

In summary, for development projects and the global fight against hunger and poverty to be effective we must urge institutions and policymakers to not plaster on worn-out ideas of how the world works, but actually consider the local contexts and try and find solutions that better suites the people who will actually benefit (or suffer) from them.

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Appendix 1

A historical overview of the spread and dissemination of Cassava to Africa

Cassava, also known as manioc or tapioca, is believed to have been domesticated 8'000-10'000 years ago in the south-western Amazon of Brazil and Bolivia. In 2018, 6000-year-old Cassava residue was found on stone tools in the area. Today there are many different species of Cassava spread throughout the world, but recent research has suggested that they have all descended from the same Cassava that was first domesticated in the Amazon basin (Hirst 2019). From America, Cassava was brought to Western Africa, most likely by Portuguese traders on slave ships, in the 16th century. Around 1780 the technique for making flour from Cassava, known as gari, was introduced in Sao Tomé aiding the diffusion of Cassava production (Nweke et al. 2001). By 1850 Cassava had spread to Zanzibar and Madagascar in Eastern Africa. In Eastern Africa it was further propagated by the British colonial government in the 1920's and 1930's who encouraged local farmers to grow the crop and established Cassava research programs in Tanzania and other colonies (Nweke et al. 2001). Despite its relatively late introduction Cassava has grown to become the second most important crop in Africa in terms of per capita calories consumed (Nweke et al. 2001). Today, roughly half of the worlds Cassava production is in Africa and the crop is grown in roughly 40 countries on the continent (Nweke et al. 2001).

Appendix 2

Overview of previous research on credit in Uganda

Previous studies on access to credit in Uganda mainly focus on access to formal, or semi-formal, credit. Many of these, inspired by New Institutional Economics, focus on transaction costs (primarily of opening bank accounts), issues of physical proximity and requirements such as identity cards (Johnson, Nino-Zarazua 2011). All of these indicators have to do with physical access to credit. The narrow focus of these type of studies has been criticised since reasons for why people do not, or cannot, use formal credit are complex and may arise from several interacting factors such as costs, discrimination, and risks. Discrimination may arise from social institutions, especially those that arise from certain identities such as age, class, religion, and ethnicity (Johnson, Nino-Zarazua 2011, Pedersen et al. 2012).

How individual, or socio-economic attributes effect demand for credit has been a rather common theme in studies of credit in Uganda. These studies tend to be based on data sets and statistical analysis. Johnson and Nino-Zarazua (2011) investigated access to all types of credit and found that form of employment, income, education, age, and gender effect access to credit. Unlike other studies they did not find that living in a rural area in and of itself was a factor influencing access to credit. Two additional examples from Ugandan are based on statistics from 1992/93 and 1999/2000 (Mpuga 2004) and 2013 (Sebaggala et al. 2019) but focused only on access to formal credit. Both found that education level, age, gender, and value of assets influenced the demand for formal credit. Additional factors influencing demand were found in both studies and in the study based on 2013 data, ownership of land title was positively correlated with accessing formal credit. As in these examples, many studies looking at access to credit in Uganda are qualitative in nature and may therefore miss important factors since hindrances to access can be context specific and may be difficult to capture using aggregated data (Johnson, Nino-Zarazua 2011).

A study in 2001 on input importers, wholesalers and retailers found that 88.5% of retailers sold inputs to farmers on credit and 24% also advanced cash credit to customers (Nkonya & Kato 2001). The percentage of retailers providing credit to

their customers was higher than the number of wholesalers providing credit. Higher levels of trust between customers and retailers was said to be the reason however two rather recent studies however found that social capital, not trust was the main determinant of access to credit, especially access to semi-formal and informal loans (Heikkilä, Kalmi, Ruuskanen 2016, Malual, Mazur 2017).

Yami and Van Asten (2018) studied the influence of informal institutions in efforts to promote sustainable crop intensification. The study focuses on how informal institutions provide farmers with access to land resources, financial resources, and farm inputs in two regions in Uganda within potato and rice production. Unlike many other studies of credit relations in Uganda this study included several in-depth interviews with farmers. Informal institutions were found to be important in facilitating access to financial resources. Village savings groups, individual lenders and input dealers were the main source of credit in most study sites. Village savings groups were considered by some to have low reserves that could be depleted quickly (Yami, Van Asten 2018). Individual lenders were associated with high interest rates and land was often used as a form of collateral meaning that the farmer could lose his land if payments were missed. A group discussion revealed that farmers tended to fear credits due to uncertainty over yields and ability to pay back. Within rice production some traders introduced “tied” credit relations where farmers were forced to sell back the produced rice at a very low price. It was also claimed that traders sometimes lowered prices even further by colluding with rice dealers. This contrasts with findings by Adjognon et al. (2016) where tied credit relationships were found to be uncommon.

Informal institutions are clearly important for credit provision to smallholder farmers Uganda and indeed many countries in Sub-Saharan Africa (Sebaggala et al. 2019; Yami & Van Asten 2018). The intricacies of these informal credit relationships have however not been qualitatively studied to any great extent. The study by Yami and Van Asten (2018) did reveal important aspects of the informal credit system and this study will build upon several of their findings. This study will however have a narrower focus on access to credit and will also include interviews with traders to create a better understanding of how credit is intertwined with, or rather, a necessity for the functioning of the Cassava value chain in Nakasongola. No previous studies have done so and my research will therefore contribute to a better understanding of informal credit for food production in Uganda.

Appendix 3

History of formal credit and government interventions in Uganda

Improving access to formal credit for the poor was seen as an important strategy in Uganda as early as the 1960's. State-owned banks were created to provide credit to rural populations, mainly through providing productive inputs. In the 1980's state control of interest rates and financial services was liberalised, and government banks were privatised (Pedersen et al. 2012). Several government interventions aimed at increasing access to credit have been launched since the 1990s however according to a report published in 2013 agricultural financing has not improved to any significant degree despite interventions (Munyambonera et al. 2013). The same report found that micro-finance systems abbreviated as SACCOS seem to have failed in promoting access to credit for smallholder farmers. In the instances credit has reached out to farmers the amounts had been too small to make any significant impact (Munyambonera et al. 2013). Recent initiatives by the government to increase access to formal credit have mainly focused on commercialisation and value addition activities. Formal access for processing firms increased from 1.8% to 5.9% between 2012 and 2018 whereas formal credit to producing entities only increased from 3% to 4% between 2010 and 2018 (Nakazi & Sunday 2020). Additionally, the few producers that do receive formal credit tend to be larger producers and not small holder farmers.

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