

**KINSHIP NETWORKS' ROLE ON RURAL HOUSEHOLDS' FOOD SECURITY
IN CHIPUKA EXTENSION PLANNING AREA, NTCHISI DISTRICT**

**MASTER OF SCIENCE THESIS IN TRANSFORMATIVE COMMUNITY
DEVELOPMENT**

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MZUZU UNIVERSITY

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**A THESIS SUBMITTED TO THE FACULTY OF ENVIRONMENTAL
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REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE DEGREE
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DECLARATION

I hereby declare that this thesis titled, “Kinship Networks’ Role on Rural Households’ Food Security in Chipuka Extension Planning Area, Ntchisi District” has been written by me and is a record of my research work. All citations, references, and borrowed ideas have been duly acknowledged. It is being submitted in fulfilment of the requirements for the award of the Degree of a Master of Science in Transformative Community Development of the Mzuzu University. None of the present work has been submitted previously for any degree or examination in any other University.



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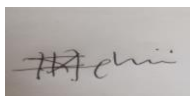
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CERTIFICATE OF APPROVAL

I, the undersigned, certify that this thesis is a result of the author's own work, and that to the best of my knowledge, it has not been submitted for any other academic qualification within the Mzuzu University or elsewhere.



10/12/2025

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DEDICATION

This study is dedicated to my father Mr. E.D.J. Ngwenya, my wife Sangalalani Juma Ngwenya and my Children: Tionge and Sarah for their perseverance during the time I went back for this study.

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ACRONYMS

EPA	Extension Planning Area
FAO	Food Agriculture Organisation
FGD	Focus Group Discussion
IPCC	Intergovernmental Panel on Climate Change
MBCA	Mutually Beneficial Collective Actions
NSO	National Statistical Office
SPSS	Statistical Package for the Social Sciences
Std Dev.	Standard Deviation
UN	United Nations

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ABSTRACT

Kinship networks are widely recognized for promoting collectivism and reciprocity; however, their specific role in sustaining rural households' food security has received limited scholarly attention. This study assessed the contribution of kinship networks to rural households' food security by establishing their role in food availability, examining their contribution to food accessibility, and evaluating their influence on food stability. A mixed-method design was employed, where a survey of 231 household heads and three focus group discussions were conducted. Descriptive statistics and thematic analysis were used to understand and gain an in-depth knowledge on the role that kinship networks play on rural household's food security. The findings revealed that kinship networks are crucial as they contribute to food production, acquisition, and recovery processes, making food available and accessible through direct food provision and income generation. Majority of households rely on their kinship networks as primary sources of food and support during food shortages and they also influence food stability by providing recovery mechanisms during periods of food scarcity. The results emphasize that kinship networks function as informal yet effective social safety nets that mitigate food insecurity risks in rural settings. Development programs should recognize and harness kinship networks as key social capital assets that sustain food security. Strengthening these networks can improve community resilience by ensuring timely support during food crises, reducing the need for external aid. Formalize the role of kinship networks in local food security planning and disaster response frameworks, incorporating them as partners in community-based monitoring and support systems.

Keywords: *Kinship networks, food security, rural households, food availability, food accessibility, food stability, community resilience, mixed-methods research.*

CHAPTER 1: INTRODUCTION

1.1 Background to the Study

1.1.1 Meaning and contextualisation of food security

Food security is a global issue as enshrined in the second sustainable development goal which advocates for zero hunger by 2030 (UN 2015). Most Africans face acute and mild food security challenges (IPCC 2021). Food security remains a major sustainability challenge in many parts of Sub-Saharan Africa of which Malawi is part of and is not exceptional (Craig et al. 2023; Dzanja et al. 2015). A significant proportion of the Malawian rural people have perennial food insecurity due to a number of reasons, ranging from frequent droughts, low farm productivity and diminishing land holding sizes (Dzanja et al. 2015). Access to food is a basic human right (McClain-Nhlapo 2004). Food security is a condition when “all people, at all times, have physical and economic access to sufficient, safe, nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO 2018). In this study, food security is defined across three pillars of availability, accessibility, and stability (FAO 2018). Food availability refers to levels of food production, stock levels, and net trade. Food Accessibility refers to how people physically or economically find, buy or produce food. Finally, food stability refers to how shocks, such as weather events, price shocks, or political turmoil affects availability and accessibility of food. The food security results in the study are framed primarily at the household level within a rural community context in Chipuka Extension Planning Area of Ntchisi District, Malawi. It evaluates food security based on households' experiences, production, resource access, and coping mechanisms

within their local social networks. While the foundational food security concepts of availability, accessibility, and stability have global and national relevance, this study narrows the focus to the household scale, and emphasises how these dimensions operate and are affected by kinship networks at the community and family level. Additionally, the study includes some consideration of community-level factors, such as village support structures and social safety nets grounded in kinship networks, but the central unit of analysis remains the rural household. In Malawi, chronic food insecurity and chronic poverty are closely related (Harrigan 2008) and food insecurity is an indicator of poverty (Dzanja et al. 2015). Poverty rates in Malawi are at 77.2 % overall and 59.5 % in rural areas, where 84% of the country's population resides (NSO 2020). The Malawi Vision 2063 recognises that eradication of food insecurity is a prerequisite for sustained economic growth and poverty reduction.

Various initiatives are being carried out by the government to eradicate food security challenges ranging from social safety nets where agriculture input subsidies have always been on the top of the agenda, livelihood diversification where there is food for work and social cash transfer programs to eradicate food insecurity (Daudi n.d.). In addition, group networks such as farmers' associations, cooperatives and clubs are also channels through which the government and Non-Governmental Organizations are providing the much-needed agricultural inputs to the rural communities in the form of loans or sometimes for free as a safety net (Dzanja et al. 2015).

1.1.2 Meaning and contextualisation of kinship networks

Mkhwanazi and Manderson (2020) mention kinship networks as one of the most important social support structures for all human beings worldwide. Kinship

networks are defined as a group of interconnected social relationships among people who are considered “kin,” or family, which may be established through biology, adoption, marriage, partnership, or other close social relationships (Lukacs 2011). Kinship networks are a form of social structure in society that can facilitate support to individuals (Wellman and Wortley 1989). Kinship networks are also described as a collective institution, representing a primary principle of social organisation, governing social relationships and marital customs that regulates access to resources and services (Di Falco and Bulte 2009). Whiteside (2000) observed that helping one another in times of economic distress constitutes one of the social safety nets that the rural poor survive on in Malawi. Kinship networks often serve as primary support systems. They provide emotional, financial, and practical assistance during times of need, such as illness, unemployment, or family crises (Gostoli and Silverman 2020; Mokomane 2012; Dudgeon et al. 2021). The key pillars of the informal social security provision or community safety nets include reciprocity and social cohesion (Devereux and Sabates-Wheeler 2004). The informal safety nets, including family members, neighbors, friends, and community associations contribute to household support systems (Nyabundi 2023).

1.1.3 Studies that illustrate benefits of kinship Networks Worldwide

As support systems and informal safety nets, kinship networks have been noted in various sectors of communities. Literature shows that they have played important roles around the world in different aspects. Studies of kinship networks on adoption of agriculture technologies as demonstrated by Conley and Udry (2010) in Ghana show that pineapple farmers were more likely to try a new practice when a close contact who is kin carried out the practice successfully. Kiptot et al. (2006) examine the diffusion of

agroforestry technologies through kinship and friendship networks in western Kenya, all these generated positive results. Studies on kinship networks on health also have positive results. For instance, in Kenya, kinship networks comprising family and close family friends helped to relieve individuals of the socio-economic challenges caused by COVID-19 (Nyabundi 2023). Another research in Laos in Southeast Asia indicates that strong kinship ties reduce child malnutrition rates and have long-term impact on improving child health status, as families share resources and support each other during crises (Phonvisay et al. 2019). Evidence show that kinship networks are one of the mechanisms that people in rural areas resort to as a buffer from economic and health shocks. These networks provide mutual support during economic hardships, enhancing food security. In rural Malawi, Mtika (2001) found that households impacted by HIV/AIDS related illness and death did not experience increased food insecurity, due to redistribution and reciprocity within extended family networks. The reason was that resources flow between households as entitlements among kin hence enabling households to secure food and diffuse risk. Similarly, Shah et al. (2002) observed that assistance by extended family networks is a crucial source of short and long term support for rural Malawian families dealing with HIV/AIDS illness and death. Studies on immigrant settlements show that kinship networks are a major driver of international migration, as migrants rely on family connections for information, resources, and opportunities in destination countries (Akanle et al. 2019). As demonstrated by Khoo (2003) kinship networks play a crucial role in helping immigrants integrate into new communities as they provide essential social support, facilitating access to resources such as housing, employment, and healthcare as well as psychological well-being and stability, crucial during resettlement. They also foster connections with cultural brokers,

aiding in navigating local systems and fostering community attachment. Kinship networks have also played a positive role on education attainment and child fostering where extended kin play a significant role in children's educational outcomes by providing financial, social, and instrumental support. Research indicates that extended family members, particularly grandmothers and maternal aunts and uncles, can positively influence educational attainment, especially in low-resource settings (Treleaven 2023; Conley and Barclay 2024). The dynastic nature of kinship networks increases the possibility of enforcing informal agreements by allowing for “generalized reciprocity” (La Ferrara 2003). In many developing countries, it is common for young people who receive support from older relatives to finance their studies to reciprocate by helping their younger relatives once they start earning money. Akresh (2007) study in Burkina Faso, shows that fostering serves a number of purposes. Among these purposes are: that of adjusting to idiosyncratic income shocks, that of balancing the demographic composition of a household’s children and that of helping a child get an education, in case the host family lives nearer to the school. Child fostering also takes place in response to shocks, such as the death of one or both parents. He found that while orphan hood generally reduced educational attainment, careful selection of caregivers within extended family networks mitigated this effect, improving educational outcomes. In all studies, child fostering takes place primarily between close relatives. Studies on business opportunities and entrepreneurship, Capital (2024) demonstrate that Kinship networks significantly influence business opportunities by providing social capital that facilitates resource sharing, innovation, and market access. Family businesses often leverage these kinship networks to enhance collaboration, maintain cultural continuity, and ensure effective succession planning. Similarly, from research by Nordman (2016) in

Madagascar, kinship networks also support entrepreneurs by risk-sharing and informal credit arrangements. This reduces transaction costs and uncertainties about market opportunities, the reliability of partners, and the productivity of employees, in particular family labor which needs less supervision by the entrepreneur (Nordman 2016). Likewise, Peng (2004) explored how kinship networks in China significantly reduce transaction costs for entrepreneurs, particularly during market reforms. The study found that these kinship networks foster trust and facilitate access to resources, thereby mitigating risks associated with business operations. Kinship networks enhance information sharing and financing opportunities, which are crucial for navigating the uncertainties of a transitional economy. This study highlights the importance of informal institutions in promoting economic activity by lowering barriers to participation and enhancing cooperation among entrepreneurs. Studies have also been done on labour pooling where it has been found that kinship networks facilitate the formation of groups and labour pooling hence reducing labour cost in rural areas (Krishnan and Sciubba 2004). This is evidenced in rural Ethiopia and also in many developing countries. Labour pooling takes many different forms, such as rotating arrangements and labour gangs. On employment opportunity as demonstrated by Granovetter (1995) who published "Getting a Job: A Study of Contacts and Careers," in Newton, Massachusetts, USA explored how kinship networks influence job acquisition. The results highlight that personal contacts are the most effective means of finding employment, often leading to better job quality and pay compared to formal methods like advertisements. This study emphasises the significance of social structures such as kinship networks in the labor market. Bromberger (2005) from his study in Northwest Iran found that the family is a space of

safety and confidence. Despite profound demographic and social transformations, the family remain the preferred social space for going into business, finding jobs and trading.

From the discussion above, kinship networks are beneficial and if they can be well harnessed, they may be used in enhancing food security. In southern Malawi and Burundi, people call upon their family network or close friends for food or cash to buffer periods of limited access to food (Margolies et al. 2017; Vervisch et al. 2013). Studies have shown that kinship networks are a major characteristic of rural areas as local institutions functioning at community level hence have their role in maintaining food security at household levels such as in Ethiopia (Degefa 2009). Shaoyan et al. (2014) also demonstrates that households engaged in kinship networks experience improved food security due to shared resources and support systems, particularly in regions facing chronic food insecurity such as in Sub-Saharan Africa. Kinship networks play a crucial role in enhancing rural household food security by facilitating food sharing and resource allocation among family members (Shaoyan et al. 2014). These networks can mitigate risks associated with agricultural production, such as weather shocks and economic instability, through food gifting practices (Di Falco and Bulte 2013; Shaoyan et al. 2014). Additionally, from study findings in southern Malawi, bonding social capital, often rooted in kinship networks, is associated with better household food access, particularly for female-headed households (Craig et al. 2023). A study done in northern Malawi shows that food security is significantly influenced by gender and kinship networks. Findings indicate that women often have limited entitlements compared to men, affecting their access to food and resources (Kerr 2005). Other studies have shown the benefits of kinship networks in terms of achieving food security, such as those by Kerr (2005) in

northern Malawi and Craig et al. (2023) in southern Malawi. However, these studies are limited, only concentrating more on gender and food access, hence there is no complete picture of how kinship networks can contribute to the three pillars of food security, which are food availability, food accessibility and food stability. Most studies on kinship networks have also been done in different sectors such as health, education, migration, job opportunities just to mention a few other than food security. Food security is a social issue of which kinship networks may play a role (World Bank Microdata 2023). Therefore, there was need to provide an understanding on the role that kinship networks have on food security. The study was done to provide empirical evidence by exploring the role that kinship networks play on rural household's food availability, food accessibility and food stability that in turn maintains food security in rural households of Malawi.

1.2 Problem Statement

Kinship networks serve as primary support systems, hence maintain social system. Kinship networks have been celebrated in Africa as an institution that acts as a safety net for the unlucky (Humphreys et al. 2016). Studies have mentioned kinship networks as the most important social support structures for all human beings worldwide (Mkhwanazi and Manderson 2020). Studies on kinship have concentrated on adoption of agricultural technologies (Kiptot et al. 2006; Conley and Udry 2010), health (Nyabundi 2023; Phonvisay et Al. 2019; Mtika 2001); Shah et al. 2002), immigrants settlements (Akanle et al. 2019; Khoo 2003; Ebaugh 2000), labour pooling (Krishnan and Sciubba 2004), employment opportunity (Bromberger 2005; Granovetter 1995; Barr and Oduro 2002), education attainment (Treleaven 2023; Jaeger 2012; Conley & Barclay 2024), child

fostering (Akresh 2007; Evans & Miguel 2005; Ksoll 2007), business opportunities and entrepreneurship (Peng 2004; Capital, 2024; Nordman 2016). However, there is limited information on how kinship networks play a role on rural household food security in Malawi since there are only a few studies that directly examine the influence of kinship networks on food security in rural Malawi. The existing studies are scattered and have focused on specific aspects like gender relations, social capital (Kerr 2005) or traditional leadership (Margolies et al. 2017) rather than providing a comprehensive or unified understanding of kinship's overall impact. This made our understanding incomplete hence more systematic or holistic research was needed. Therefore, the focus of the study explored the contribution of kinship networks on the availability, accessibility and stability of food that in turn maintain food security for rural households.

1.3 Study Objectives

1.3.1 Main Objective

The main objective of the study was to assess the contribution of Kinship networks to rural households' food security in Chipuka extension planning area, Ntchisi District.

1.3.2 Specific Objectives

- i. To establish the role of kinship networks on availability of food in rural households.
- ii. To examine the contribution of kinship networks on the accessibility of food in rural households.
- iii. To assess the influence of kinship networks on stability of food in rural households.

1.3.3 Research Questions

- i. What roles do kinship networks play towards the availability of food to rural households?
- ii. What is the contribution of kinship networks on the accessibility of food in rural households?
- iii. How do kinship networks influence stability of food in rural households?

1.4 Justification of the study

Food security is a very important welfare indicator, especially for the rural poor who rely on subsistence farming activities. Usually, in rural setup households do not produce enough food due to many factors. Social cash transfers and cushioning programmes are intermittent, and insufficient where households survive the whole year round. The importance of the study was therefore to generate empirical evidence that clarifies how kinship networks support rural households to produce food, access it economically and physically, and maintain food stability throughout the year was needed.

The study on role of kinship networks on availability of food has helped to come up with strategies that could assist the households to produce their own food and suggest the best approaches for food production.

Studying on the contribution of kinship networks on the accessibility of food has helped to inform stakeholders and community members to widen interventions that would enable them have the ability to acquire food and attain other rights.

The study on the influence of kinship networks on food stability has helped to identify the coping mechanisms that households may use to get through shocks and find ways to

strengthen them. Overall, this study has contributed to the common literature on food security and kinship networks by providing evidence based literature.

1.5 Ethical consideration

Ethical approval was sought from the Mzuzu University Research Ethics Committee (MZUNIREC) since the study involved people. At village level, permission was sought and granted by local leaders and all participants were given all the necessary information for them to make informed decisions regarding their participation, hence getting informed consent before participating. Confidentiality of the names of the individual participants was tightly safeguarded throughout and after data collection. Participants got a clear explanation of the reasons for doing the survey and participation was based on a voluntary basis.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This chapter reviews some studies on how kinship networks have been instrumental globally, in Africa and Malawi in promoting various services in different sectors including food security. It also reviewed the literature on social capital theory from which the theoretical framework informing this study was derived. The chapter further concludes with a conceptual framework that guided this study.

2.1 Dimensions of Kinship and kinship Networks

Kinship itself refers to a kind of relation that links individuals through blood, marriage or adoption creating a network that gives its members a sense of belonging (Giddens et al. 2012). Kinship networks are described as “a collective institution, representing a primary principle of social organisation, governing social relationships and marital customs and regulating access to resources and services” (Di Falco and Bulte 2009). Kinship is also a culture's system of recognised family roles and relationships that define the obligations, rights, and boundaries of interaction among the members of a self-recognising group (Kanu 2014). It can be noted from the definitions above that kinship creates a social network of relatives and few close friends who are related in what they share and struggle against in producing necessities of life such as food hence responding to each other's needs as deemed culturally appropriate hence obliged to ensure the well-being of each other.

2.2 Role of kinship networks on availability of food in rural households.

Food availability refers to levels of food production, stock levels, and net trade (FAO 2018). Food availability is a function of market conditions and production activities in the agricultural sector. Studies show that kinship networks' nature of collectivism, reciprocity and altruism can be used to play a role in rural households' food availability.

Kinship networks facilitate the formation of groups and labour pooling that reduce labour cost in rural areas (Krishnan and Sciubba 2004). This is evidenced in rural Ethiopia and also in many developing countries. It takes many different forms, such as rotating arrangements and labour gangs. Krishnan and Sciubba (2004) argue that labour pooling is an institution whose purpose is to provide protection against health risk. Farming operations must be done in a timely manner. If a farmer is ill and cannot complete a critical task on time, the work of a whole season may be lost hence reducing food production. In a study on the economic payoff of kinship networks in the context of China's rural industrialisation, it was argued that kin solidarity and kin trust played an important role in protecting the property rights of private entrepreneurs and reducing transaction costs during the early stages of market reform, when formal property rights laws were ineffective and market institutions underdeveloped. The study found out that kinship networks had large positive effects on the count and workforce size of private rural enterprises and insignificant effects on collective enterprises (Peng 2004). Several studies suggest a positive correlation between kinship networks in form of social capital, technology adoption and income (Adeyemo et al. 2020). Here kinship network helps the farmers to pool their scarce economic resources together in order to help themselves in their farming operations (Okunmadewa et al. 2005; Di Falco and Bulte 2011; Wossena

et al. 2015; Kehinde et al. 2021). Studies have shown that social networks have a statistically positive and significant impact on the adoption of agricultural innovation (Isham 2000; Krishna 2001). This underscores the importance of social networks as a factor that could have a significant impact on the adoption of agricultural innovations and technologies there by boosting their crop production and increasing availability of food. Mkhwanazi and Manderson (2020) in their book “Connected Lives,” a study conducted in South Africa, have, however, noted that kinship and residence, families, and households connect and give meaning to lives. They further state that families and households care for basic human needs: food and shelter, reproduction, and social and daily production hence promoting availability of food and services. The care provided to individuals occurs whether the family is biologically based or chosen, heterosexual or otherwise, large or small, matrilineal or patrilineal, nuclear or extended. For an effective adaptation, all resources (economic, environmental and social) have to be utilised (Yiran 2016). One important approach commonly employed by resource-poor farmers to acquire such management practices and adaptation measures is through the formation of networks that provide self-protection and risk-sharing (Jan 2016). These networks create social capital which is defined as a shared asset in the form of customs, ideas, opinions, belief, social systems, communal relations and institutions, among others which facilitate cooperation for mutual benefits and Malawian farmers practice these aspects on daily basis. Social network is an essential feature that helps communities to solve collective action problems such as responding to both micro and macro climate threats hence enhancing availability of food (Aldrich 2010; Prasad et al. 2014; Kehinde et al. 2021). Malawi is not left out from such scenarios, and examples like these illustrate not only

how important kinship network is for global capitalism, but also how kinship adjusts to conditions created by global inequalities.

2.3 Contribution of kinship networks on the accessibility of food in rural households

Food accessibility refers to how people physically or economically find, buy or produce food. Food accessibility deals with household's ability to acquire adequate food (FAO 2018). Studies show that kinship networks' nature of collectivism, reciprocity and altruism can contribute to rural households' food accessibility.

The institution of child fostering for example is widespread in Sub-Saharan Africa, where parents send a child to live with another family for a more or less extended period of time either to access food or education. In a study in Burkina Faso, Akresh (2007) shows that fostering serves a number of purposes, including that of adjusting to idiosyncratic income shocks (hence, risk sharing), that of balancing the demographic composition of a household's children and that of helping a child access an education, in case the host family lives nearer to the school. Child fostering also takes place in response to shocks, such as the death of one or both parents. Evans and Miguel (2005), Ksoll (2007) illustrates the role that child fostering plays in caring for HIV/AIDS orphans in Africa where they access to medicine and food. In all studies, child fostering takes place primarily between close relatives. Kinship networks have helped children to access education where extended kin play a significant role in children's educational outcomes by providing financial, social, and instrumental support. Research indicates that extended family members, particularly grandmothers and maternal aunts and uncles, can positively influence educational attainment, especially in low-resource settings

(Treleven 2023; Jaeger 2012; Conley and Barclay 2024). The dynastic nature of kinship networks increases the possibility of enforcing informal agreements by allowing for “generalized reciprocity” (La Ferrara 2003). In many developing countries, for example, it is common for young people who receive support from older relatives to finance their studies to reciprocate by helping their younger relatives once they start earning money. Sharing within kinship networks is an aspect of what Bledsoe terms the “wealth in people” system (Bledsoe 2002). Kinship networks based on trust and informal enforcement mechanisms may provide the only avenue of access to credit and insurance (Carter and Castillo 2002). One of the essential features of kinship networks, next to the formation of strategic alliances between kinship members is the provision of economic and social security to its members via redistribution and sharing there by enhancing accessibility of food and other services (Di Falco and Bulte 2009). Dercon et al. (2004) document the importance of funeral societies in rural Ethiopia and Tanzania as a way of dealing with funeral costs. While the funeral society is in many ways a formal institution with clearly defined regular contributions, the enforcement of contractual obligations often rests on kinship networks. As argued among others by Foster and Rosenzweig (2001) altruism is instrumental in sustaining self-enforcing mutual insurance arrangements. In fact, when households care about each other, they stand to gain more from insuring each other, than they would otherwise, hence increasing the scope for cooperation. As evidenced in rural South Asia, when transfers do not take the form of monetary payments, but rather of in kind payments, there may be further reasons for relying on kinship networks rather than on networks of friends. A fundamental pre-requisite for risk sharing agreements to work is reciprocity. The reason why people share their crops or livestock is that they expect to become recipients in the future, although the

exact time and extent of the reciprocation may not be known at the date of the transaction (Ligon, Thomas and Worrall 2001). Networks of blood and kin also serve to relay important information, such as information about job or business opportunities. Granovetter (1995) for instance, documents the role that networks played in matching workers and employers. In practice, these new recruits often are relatives and kin members (Barr and Oduro 2002). Ebaugh and Curry (2000) documented, balancing family life and professional careers for many parents in the Global North is contingent on the cheap care work of migrant workers. These migrants have often left their children to other family members in their countries of origin in order to migrate, work and send remittances that will ensure a better future for their children (Parrenas 2005). Munshi (2003) provide evidence of how information about business opportunities circulates in kinship networks. Granovetter (1985) claimed that all market transactions are embedded in a social context. Kinship networks significantly influence business opportunities by providing social capital that facilitates resource sharing, innovation, and market access (Capital 2024). Family businesses often leverage these networks to enhance collaboration, maintain cultural continuity, and ensure effective succession planning. For instance, kinship ties can help secure partnerships and market entry, as seen in companies like Mittal Steel and Ferrero Group hence continued production and access to income and services. Peng (2004) explores how kinship networks in China significantly reduce transaction costs for entrepreneurs, particularly during market reforms. These networks foster trust and facilitate access to resources, thereby mitigating risks associated with business operations. Kinship ties enhance information sharing and financing opportunities, which are crucial for navigating the uncertainties of a transitional economy. This study highlights the importance of informal institutions in promoting

economic activity by lowering barriers to participation and enhancing cooperation among entrepreneurs. Kinship networks are a major driver of international migration, as migrants rely on family connections to access information, resources, and opportunities in destination countries (Akanle et al. 2019). Studies show that kinship networks connect migrants and non-migrants in different localities and facilitate further migration by providing all sorts of assistance to new migrants (Choldin 1973). Khoo (2003) also found that kinship networks play a crucial role in helping immigrants integrate into new communities as they provide essential social support, facilitating access to resources such as housing, employment, and healthcare. Close family ties enhance psychological well-being and stability, crucial during resettlement. Additionally, these networks foster connections with cultural brokers, aiding in navigating local systems and fostering community attachment. Studies indicate that bonding and bridging networks, often formed through kinship, significantly contribute to immigrants' overall integration and satisfaction within their new environments. Kinship networks significantly influence food accessibility in rural areas by acting as a form of social capital. These networks provide mutual support during economic hardships, enhancing food security. For instance, research in Lao PDR indicates that strong kinship ties reduce child malnutrition rates, as families share resources and support each other during crises (Phonvisay et al. 2019). Additionally, from study findings in Malawi (Phalombe), bonding social capital, often rooted in kinship networks, is associated with better household food access as they help in alleviating hunger during food insecure periods. The combination of bonding and bridging facilitates access to resources, collective decision-making and reduced transaction costs particularly for female headed households (Craig et al. 2023).

2.4 Influence of kinship networks on stability of food in rural households

Stability of food refers to the ability of food systems to maintain consistent availability and accessibility of food over time (FAO 2018). This means that households' food availability and accessibility should not face sudden disruptions due to factors such as natural disasters like weather events, economic fluctuations such as price shocks or conflicts. Studies show that kinship networks can maintain consistent availability and accessibility of food over time in rural households.

Kinship networks all over the world providing insurance and credit to their members. Di Falco and Bulte (2011) finds that in the absence of access to formal financial institutions, traditional sharing norms imply a safety net for the unlucky and less able. Economists have also noted how in developing countries, especially in Africa, extended family links have substituted for missing credit markets (La Ferrara 2003). This is particularly crucial in societies that are poor and prone to economic shocks (e.g. agricultural societies in developing countries), with severe credit market imperfections and where the state provides few or no social safety nets. With the absence of 'formal' financial markets and insurance opportunities, many people in developing countries depend on informal community structures to provide social security and reduce their exposure to risk (Fafchamps and Lund 2003). Studies have also demonstrated that societies favour kinship networks for social action. Bromberger (2005), in his study in Northwest Iran found that the family is a space of safety and confidence. Despite profound demographic and social transformations, the family remain the preferred social space for going into business, finding jobs and trading. More particularly, the kinship networks remain the privileged partners for trading and taking economic risks. For developing countries,

empirical studies also have shown that there is a considerable degree of risk sharing between members of the same family (Murgai et al. 2002; Fafchamps and Gubert 2007). The rationale for having extended families or kin groups act as risk pool, rather than a generic network of friends. Akresh (2007a) study on child fostering, particularly in Burkina Faso, highlights how households adjust their structure through fostering as a response to economic risks and social network quality. His findings indicate that fostering serves as a risk-coping mechanism during income shocks, with households more likely to send children to live with others when faced with adverse economic conditions. Better social networks facilitate fostering decisions, allowing families to manage labor demands and household composition effectively. Martin (2002) argues that kinship provides protection against risks and economic difficulties throughout life; whether it is about job hunting, marital separation, or caring for the elderly. Munshi (2003), Granovetter (1995) in their studies found out that those who flee drought and famine or roving bandits and lawless armies seek shelter among relatives and kin whenever possible. Migrants provide shelter and assistance to freshly arrived migrants, creating tightly knit migration networks linking village of origin and place of destination. Foner (1999), explained that Kinship ties are an effective way to cope with uncertainty and economic scarcity. Bentolilla and Ichino (2006) studied how countries with different kinship ties (namely Italy and Spain with strong family ties, the US and the UK with less strong ties) cope with unemployment shocks. They found that the consumption losses after the termination of a job are much lower in Mediterranean Europe, due to strong family networks. Fafchamps and Gubert (2007) published "The Formation of Risk Sharing Networks" in the Journal of Development Economics. This work explores how individuals form social networks to share risks, particularly in rural settings. They

analyse the mechanisms behind these networks and their implications for economic stability and social welfare. Their research highlights the importance of social networks in managing economic risks and the role of informal arrangements in developing economies. Phonvisay et al. (2019) found evidence that kinship networks, which is acknowledged as the foundation of social capital, is one of the mechanisms that people in rural areas resort to as a buffer from economic and health shocks. From the analysis, kinship network shows an impact on improving child health status, especially for long-term child health. Fafchamps and Lund (2003) paper, "Risk-sharing networks in rural Philippines," published in the Journal of Development Economics, examines how rural Filipino households manage income and expenditure shocks through informal networks. The study analyses the roles of gifts, loans, and asset sales in these networks, highlighting the importance of social networks in risk-sharing mechanisms. The findings emphasize that such networks are crucial for economic resilience in rural communities. In Malawi, Kinship networks has played a role in combating threats that Malawian people still face such as food insecurity through food sharing, caring for each other in illness such as HIV/AIDS, Lack of funds to finance access to adequate health care, shared funeral costs, ability to absorb orphans into the village when required (Ankrah 1993; Mtika 2000).

2.5 Criticisms of kinship networks

Despite kinship networks being conduits for resource pooling, wealth exchanges and mechanisms through which people deal with problems they experience, scholars have criticized the concept of kinship as promoting over-dependence, and creating avenue for incompetence and laziness since everyone hides under the shadow of the community and

relatives (Kanu 2014). Quinones (2007) argue that though a mentality of solidarity and generosity toward compatriots is quite significant in the Mexican immigrant community, there does exist the risk of jealousy and competition, especially with regard to employment. In his research, Quinones (2007) discovered examples of the phenomenon, which is based on a Mexican proverb of a crab. “When one crab tries to get out of the pot [of boiling water], the others pull him back down; if they can’t get out, why should he?” This clearly shows that there is no advancement when there is communal life of living. Coleman (1988) argues that family ties can facilitate or inhibit social actions. On the one hand, the young generation receives support from the old ones; on the other this sense of belonging to a small community can inhibit individual innovation and openness to new ideas in general. The prospect of forced redistribution may impact on spending and savings decisions. Lewis (1955) recognises such adverse incentive effects when writing about successful kinship members who ‘may be besieged by increased demand for support from a large number of distant relatives.’ Similarly, Bauer and Yamey (1957) mention sharing obligations that may ‘obstruct the spreading of the banking habit since people are unwilling to have bank accounts the content of which are likely to be divulged to kinsmen. Generally, it weights the scales against investment.’ Compulsory contributions to the family pool—akin to a ‘family tax’—therefore may discourage individuals to work hard and accumulate assets. Traditional sharing rules could possibly contribute to the existence of poverty traps by discouraging investments and savings.

The security character of kinship is not stable in time. It can quickly disappear because of important social change. Dorronsoro (2006) shows as a clan as a social unit of solidarity in Kurdish village in Southeast Anatolia until the 1980s, where with rural-urban

migration and the beginning of armed clashes, the clan is no longer an institution protecting its members. It quickly loses its social function. Kinship networks can be used for good things and can also be used for bad. Fisman (2001) for instance, provides empirical evidence that Indonesian businesses headed by relatives of the Suharto family benefited from preferential treatment. Family and kinship ties can be used for collusion and price fixing, or to cement efforts to exclude outsiders from jobs and market opportunities: The Ku Klux Klan is perhaps the most despicable illustration of this type of network effect. Family ties can be used to attract and divert development aid, as discussed by Platteau and Gaspart (2003). Ensminger (2004) provides a chilling account of how development aid directed at poor Kenyan herders was diverted by a family ring. Family ties can also be harnessed to ensure collaboration and enforce a law of silence among criminals and terrorists. Gambetta (1993) illustrates this in the case of the mafia. Others have discussed it in the case of terrorism (Krueger and Maleckova 2003).

2.6 Conclusion and point of departure

Even though kinship networks have been criticised for having some negative contributions in societies as discussed in section 2.5 above, a big picture of it is that of playing positive roles to every society in the world hence overshadowing the kinship networks' dark side. From the review, it has been noted that kinship networks play a lot of roles in areas such as adoption of agriculture technologies, social protection, access to credit and insurance, access to information, acting as safety nets, going into business, finding jobs, trading, child fostering, coping with uncertainty and economic scarcity, risk sharing, facilitating formation of groups and labour pooling, coping with unemployment shocks just to mention a few. However, from this review, it does not come out clearly on

how kinship networks contribute or play a role in rural household's food availability, accessibility and stability which are the pillars of food security. As stipulated in the background, food security remains a challenge in Malawi and there is need for increased knowledge on the importance of kinship networks so that it can help members to promote increased availability of food, access to food and stability of food thereby alleviating food security challenges. Looking at the way kinship networks perform in other areas of life, if well harnessed, might be used as well to alleviate food security challenges. Since literature on how kinship networks play a role on food security is scanty, there is need to explore the direct link of how kinship networks contribute to food security.

2.7 Theoretical framework

The conceptual framework underpinning or guiding the study was drawn from social capital theory. Social capital was reviewed as it relates well with kinship networks. Social capital concept is described as; a collective asset in the form of shared norms, trust, networks, social relations, and institution that facilitate cooperation and collective action for mutual benefits pioneered by Bourdieu (1986), Coleman (1988) and Putnam (1993). Granovetter (1985) argued that most economic behaviours are embedded in social networks. Social capital is defined as the existence of a certain set of informal values or norms shared among members of a group that permit cooperation among them (Fukuyama 1995). Nahapiet and Ghoshal (1998) also defines social capital as the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit such as a household.

Kinship is one of the forms of social capital which in practice exist as social ties that constitute 'bonding' in one respect and 'bridging' in another (Leonard 2004; Putnam 2000; Woolcock 2001). Kinship networks fall under 'bonding' social capital (Leonard 2004; Putnam 2000; Woolcock 2001). Bonding social capital denotes ties among people who are very close and known to one another, such as immediate family, close friends, and neighbours. Often people in bonding networks are alike on key personal characteristics (e.g., class, race, ethnicity, education, age, religion, gender, and political affiliation). It is more inward-looking, protective, and exercising close membership, and therefore good for under-girding specific reciprocity and mobilising informal solidarity (Van Oorschot et al. 2006). Despite bonding leading to exclusion of outsiders in accessing social and economic opportunities, limiting individual freedom, bonding promotes communication and relationships necessary to pursue common goals. Bonding with closely-knit people can act as a social support safety net. Bonding generates ingrown and thick trust that is useful for 'getting by' in life (Anheier and Kendall 2002; Woolcock 2001).

Social capital is well understood by looking at its interrelated categories of phenomena which are structural social capital and cognitive social capital. According to Coleman (1988) and Putnam (1993) the structural category is associated with various forms of social organisation, particularly roles, rules, precedents and procedures as well as a wide variety of networks that contribute to cooperation and specifically to mutually beneficial collective actions (MBCA) which is the stream of benefits that results from social capital. The networks are the patterns of social exchange and interaction that persist over time.

Networks as a structural social capital are held together by mutual expectations of benefits and are crucially sustained by expectations (that is by norms) of reciprocity.

The cognitive category derives from mental processes and resulting ideas, reinforced by culture and ideology, specifically norms, values, attitudes and beliefs that contribute cooperative behaviour and mutually beneficial collective actions (MBCA). These norms, values, attitudes and beliefs create a behavioural phenomenon known as expectations about how people should act and will act. That is whether people will be cooperative or not, whether they will be generous or ungenerous (Coleman 1988 and Putnam 1993).

From this discussion above, kinship networks display intense examples of social capital characteristics in real-life situations. The roles, rules, precedents and procedures within various social structures as well as norms and values along with their associated attitudes and beliefs are the mechanisms by which social capital is built up and accumulated, stored, modified, expressed and perpetuated. All these are embedded in all kinds of kinship networks created by marriage, blood and friendship. The roles, rules, precedents, procedures, networks, norms, values, attitudes and beliefs produce benefits in rural households that can enhance the social and economic outcomes of the rural households' food access, availability and stability.

2.8 Conceptual Framework

The independent variables were kinship network characteristics while the dependent variables were the availability, access and stability of food. The study tested if the kinship networks have a contribution on food availability, access and stability thereby maintaining food security.

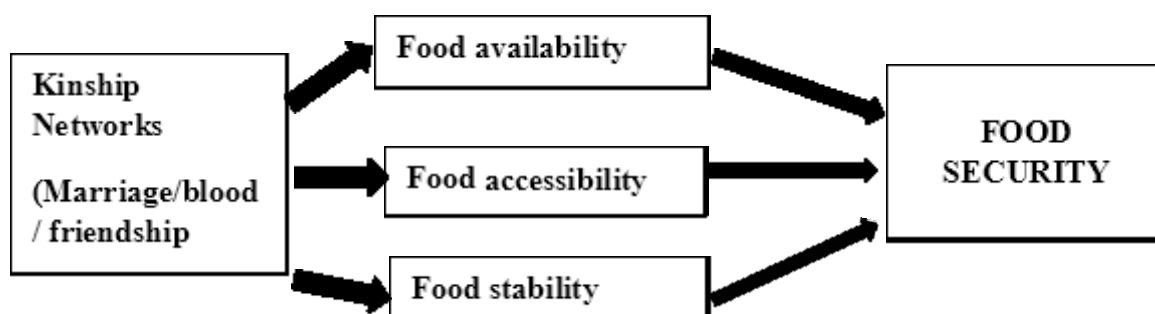


Figure 2.1: Conceptual Framework

Figure 2.1 illustrates kinship networks that include marriage, blood ties and friendships as the independent variable, while food security is the dependent variable. Food availability, accessibility, and stability are the intermediary variables. The framework suggests that strong kinship ties can improve food security by promoting resource sharing, access to land, and production tools, and facilitating exchanges during production. Additionally, kinship networks may improve food access by offering financial aid. Loans, transportation, and market connections. They also provide a safety net during the lean season, contributing to food stability. This framework, therefore, suggests an important role of kinship in ensuring consistent access to sufficient, safe, and nutritious food.

CHAPTER 3: METHODOLOGY

3.1. Study Area

The study was done in Tsavu section within Chipuka EPA in Ntchisi District. Ntchisi district is found in the central region of Malawi about 96 kilometres north of Lilongwe city. Geographically is at 13.367⁰S latitude and 34.000⁰E longitude. The district has matrilineal kinship network type of social system where lineage, group membership, and inheritance are traced exclusively through the mother's line. Individuals belong to their mother's kin group, and property or status is passed down through female relatives. In this system, a person's closest kin are their mother, siblings, children of female relatives and maternal uncles who plays a significant role in the upbringing and inheritance of their sister's children (Alesina et al. 2016; Bau 2016; Laferrara and Milazzo 2014). The economy of Ntchisi district is primarily agricultural. Tsavu section has ten villages and suitable for the study as it is composed of typical rural villages that are having the characteristics that the study required. The study required people who are typically blood, marriage and friendship related. Blood, marriage and friendship are the three types of relationships dominant and most meaningful forms of social connections in rural areas. Rural social networks such as in rural Africa including Malawi are characterised by strong bonds among kin (blood and marriage) and friends, with each type playing a distinct role in social support and crisis management (Myroniuk, Prell and Kohler 2017; Hruschka, Munira and Jesmin 2023). The area also has people who are rural farmers whose economic livelihood is mostly subsistence agriculture hence best for the study. Figure 3.1 presents the Map of Malawi showing the study area in Ntchisi district, Chipuka EPA and Tsavu section respectively.

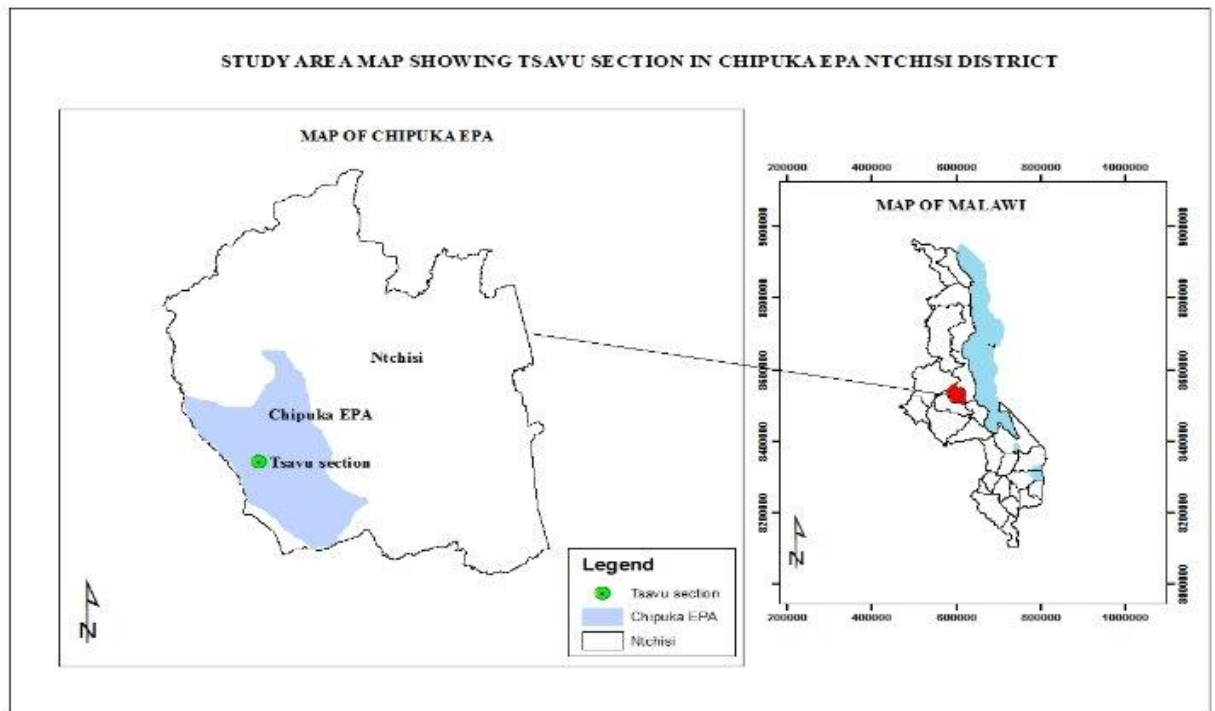


Figure 3.1: Study Site in Ntchisi District

3.2. Research design

To address the key research objectives, this research used a Convergent Mixed Methods design, where both quantitative and qualitative data were collected and integrated during the analysis. Quantitative approach involved the process of collecting and analyzing numerical data and coming up with patterns, making predictions, testing causal relationships, and generalizing results to the wider population (Creswell 2013). Qualitative approach, on the other hand, involved the process of naturalistic inquiry that sought an in-depth understanding of role of kinship networks on food security within the respondent's natural environments (Gibbs 2007). It focused on the 'why' rather than the 'what' of social phenomena hence relied heavily on the direct experiences of the respondents as meaning-making agents in their everyday lives (Melnikovas 2019).

Specifically, the quantitative and qualitative data collected was analyzed, then compared the analysis to see if the data confirmed or disconfirmed each other (Creswell and Creswell 2018).

3.3 Sampling framework and methods

The research population for the study included rural male and female-headed households. The survey focused on rural households since their economic livelihood is mostly subsistence agriculture. The study used the principal of normality, where three villages (Chibisa, Chitete, Mselembo) were randomly selected for the study by assigning unique numbers to the list of the villages and draw three numbers at random. Tsavu section have ten villages namely, Chibisa with 168 households, Chikugwere with 177 households, Chitatanga with 195 households, Chitete with 248 households, Fitizalimba with 194 households, Khuwi with 369 households, Makanda with 139 households, Mpando with 151 households, Mselembo with 174 households and Visambo with 219 households (Chipuka EPA household data 2023).

Simple random sampling was used to select households that included male and female-headed households to participate in the study. The simple random sampling made sure that every case of the population had an equal probability of inclusion into the sample (Taherdoost 2016). Yamene (1967) formula was used to come up with sample size of respondents at 95% confidence interval, with level of precision of 5%

$$n = \frac{N}{1+N(e)^2}$$

Where: **n** is sample size, **N** is total population and **e** is absolute error size of 0.05 to balance precision and practicality.

The three randomly selected villages (Chibisa, Chitete and Mselembo) had a total of 536 households eligible for the study. Using the formula above, the number of both male and female household heads to participate in the study was calculated and arrived at 231 household heads. Probability proportional to size (PPS) was used to distribute the sample size of the study participants across the three villages hence Chibisa had 77 household heads sampled out, Chitete 76 household heads sampled out and Mselembo 78 household heads sampled out for the study. The real households visited were identified by listing and numbering all male headed households and female headed households in each village then using systematic means, every household head with odd number was selected until the required sample size was reached for each village.

Non-probability sampling was used with the help of village headmen to purposively select focus group discussion participants to help in triangulating the results from the household survey. 30 male and female household heads were selected (10 from each village comprising 5 males and 5 females) to participate in the three focus group discussions conducted in the randomly selected three villages to strengthen the validity and credibility of the research results.

3.4 Data Collection and Analysis

3.4.1 Demographic Characteristics

Quantitative data was collected from a household survey of 231 male and female household heads that was conducted in three villages of Tsavu section, Chipuka EPA.

Datasets such as household age, sex, household size, occupation of household head, marital status of household head and household land size for farming was collected using a structured survey questionnaire. This data was analysed with the help of statistical package of social sciences (SPSS) software to generate descriptive statistics such as frequencies and percentages which were crucial to understand the role of kinship networks on food security.

3.4.2 To establish the role of kinship networks on availability of food in rural households

Food availability refers to levels of food production, stock levels, and net trade (FAO 2018). Food availability is a function of market conditions and production activities in the agricultural sector. To establish the role of kinship networks on availability of food, both quantitative and qualitative data were collected.

Household survey of 231 participants was conducted using a coded structured survey questionnaire. This helped to gather large-scale quantitative data set that included information on source of labour, source of farm inputs, household food stock levels, exchanges of food with non-food items, financial supports, knowledge and information sources, sources of extra land, food markets. Results of the quantitative information was significant to understand the extent to which kinship networks play a role in various aspects of food and crop production and agricultural activities.

This quantitative data, which was coded on a Likert scale, was statistically analysed using statistical package of social sciences (SPSS) software to generate descriptive statistics that included percentages, means, standard deviations, and Cronbach alpha

calculated for each survey item. This helped to summarise the key features of the data and characterize the survey responses in a clear, concise manner hence understand the importance and extent to which rural households rely on kinship networks since level of agreement was sort on each item.

Qualitative data was also collected on the roles of kinship networks on food availability using focus group discussions technique that comprised of 5 male and 5 female household heads from each of the three villages sampled. A guide was formulated for the focus group discussions with open-ended questions which looked at issues of household food and income, food production and productivity, market availability and exchange of food and services. This focus group discussion provided a platform for participants to share their experiences and perspectives regarding kinship networks' role on food availability. It was also done to allow for triangulation of data, where the results from the survey were to be validated or enriched by insights gained from the findings from focus group discussions hence strengthening the reliability of the results

The qualitative data was analysed using thematic analysis approach as expounded by Braun and Clarke (2006). Areas of agreements and disagreements were identified and analysed to support the data collected quantitatively. This involved closely examining texts such as interview transcripts to identify common themes; that is, topics, ideas, and patterns of meaning that come up repeatedly (Caulfield 2022).

3.4.3 To examine the contribution of kinship networks on the accessibility of food in rural households

Food accessibility refers to the factors that influence an individual or household's ability to acquire adequate food. Food accessibility is a function of physical, economic as well as social access to sufficient food (FAO 2018). To examine the contribution of kinship networks on the accessibility of food in rural households, both quantitative and qualitative data were collected to build a strong case and validate the results.

Household survey of 231 participants was conducted using a coded structured survey questionnaire. This helped to collect quantitative data that included information on social networks as part of food source, ready markets to acquire inputs and food, source of income, source of good food prices. This quantitative information helped to understand how kinship networks form social capital that can influence economic behavior and food acquisition where there is promotion of sharing and reciprocity, which can support food accessibility in rural households.

This quantitative data, which was coded on a Likert scale, was statistically analysed using statistical package of social sciences (SPSS) software to generate descriptive statistics that included percentages, means, standard deviations, and Cronbach alpha calculated for each survey item. This helped to summarise the key features of the data and characterize the survey responses in order to see the level of agreement on how kinship networks assist in the physical, economic and social access of food in rural households.

Qualitative data was also collected on the contribution of kinship networks to food accessibility using focus group discussion technique that comprised of 5 male and 5 female household heads from each of the three villages sampled. This was done to validate and triangulate the results from the survey conducted as well as to gain more insights from the participants' experiences and perspectives regarding contribution of kinship networks on food accessibility. A guide was formulated for the focus group discussions with open-ended questions which looked at issues of households physical and financial access to food, sharing and exchange of food and services, how kinship networks pose like ready market, kinship networks and food price changes. This gave deeper evidence on how kinship networks contribute to physical, economic and social access to food.

The qualitative data was analysed using thematic analysis approach as expounded by Braun and Clarke (2006). Areas of agreements and disagreements were identified and analysed to support the data collected quantitatively. This involved closely examining texts such as interview transcripts to identify common themes; that is, topics, ideas, and patterns of meaning that come up repeatedly (Caulfield 2022).

3.4.4 To assess the influence of kinship networks on stability of food in rural households

Stability of food refers to the ability of food systems to maintain consistent availability and accessibility of food over time (FAO 2018). This means that household's food availability and accessibility should not face sudden disruptions due to factors such as natural disasters like weather events, economic fluctuations such as price shocks or

conflicts. To assess the influence of kinship networks on stability of food in rural households, both quantitative and qualitative data were collected to build a strong case and validate the results.

Household survey of 231 participants was conducted using a coded structured survey questionnaire. This helped to collect quantitative data that included information on how kinship networks form part of recovery plan in times of food shortage, adverse weather conditions and sickness, rising food prices, provision of piece works, diversification knowledge, food credits, existence of sharing and exchange of services, food and agricultural products. This quantitative information helped to understand how kinship networks make sure that households have consistent production and supply of food throughout the year regardless of any external shocks such as economic shifts and extreme weather.

This quantitative data, which was coded on a Likert scale, was statistically analysed using statistical package of social sciences (SPSS) software to generate descriptive statistics that included percentages, means, standard deviations, and Cronbach alpha calculated for each survey item. This helped to summarise the key features of the data and characterize the survey responses to see the level of agreement on various mechanisms that kinship networks employ to influence stability of rural household food availability and accessibility.

Qualitative data was collected on how kinship networks influence food stability using focus group discussion technique that comprised of 5 male and 5 female household heads each from the three sampled villages. A guide was formulated for the focus group

discussions with open-ended questions which looked at issues regarding how kinship networks provide shortfall of household food, maintain food amount in case of rising food prices, assist in reducing debts, acting as safety net and provision of services, piece works for food. This focus group discussion helped participants to share their experiences and perspectives on how they survive the whole year round despite not harvesting enough food using kinship networks. This focus group discussion enriched the household survey results and provided a better insight on various mechanisms that kinship networks employ to influence stability of household food.

The qualitative data was analysed using thematic analysis approach as expounded by Braun and Clarke (2006). Areas of agreements and disagreements were identified and analysed to support the data collected quantitatively. This involved closely examining texts such as interview transcripts to identify common themes; that is, topics, ideas, and patterns of meaning that come up repeatedly (Caulfield 2022).

3.4.4 Statistical Analysis Parameters Used in the Study

The Likert scale was used to provide a structured, clear framework for respondents to express their attitudes, opinions, or perceptions in a way that is both natural and analysable since the scale included a balanced range of ordered response options (strongly agree, agree, disagree, strongly disagree) that captured varying intensities of agreement. This allowed respondents to convey nuanced degrees of agreement or frequency which enriched the data. The study used a four-point likert scale to force respondents to take a clear stance hence having a clearer, more decisive data about respondents' opinions related to kinship support and food security.

The percentages from the Likert scale (Strongly Disagree, Disagree, Agree, Strongly Agree) were generated to indicate the distribution of respondents' opinions hence level of agreement on each statement regarding kinship networks and food security were quantified into a more interpretable format. High Percentages in Agree/Strongly Agree suggested strong support for the statement, indicating that kinship networks are perceived as important for food security while high Percentages in Disagree/Strongly Disagree indicated that kinship networks are perceived as not important for food security.

The mean values for each item on a Likert scale with a neutral point often 3 on a Likert scale of 1 to 5 were also generated in this study in order to represent the average level of agreement among respondents regarding the role of kinship networks in food security. Higher mean values (above 3.5) indicated that participants generally agree on the importance of kinship networks on food security hence suggesting a strong perception of kinship networks as vital for enhancing food availability, accessibility, and stability within rural households while lower mean values (below 3) would indicate less consensus or agreement among respondents about these roles, highlighting areas where perceptions may vary significantly.

Level of statistical significance of the results were also generated and presented in form of stars (*) next to the means for each item. This was there to indicate if mean scores are significantly different from a neutral point often 3 on a likert scale of 1 to 5. The stars indicate significance levels, with more stars indicating a higher level of significance. That is to say One star (*) typically indicates a p-value less than 0.05, Two stars (**) indicates a p-value less than 0.01 and finally Three stars (***) indicates a p-value less than 0.001 which suggests very strong evidence against the null hypothesis.

The Standard Deviation (Std Dev) for the Likert scale was generated to measure the variability or dispersion of responses around the mean where lower standard deviation indicated that responses are clustered closely around the mean, while a higher value was supposed to suggest a greater variability in responses.

Cronbach's Alpha as a reliability coefficient was generated to assess the internal consistency or reliability of the Likert scale items. Values of Cronbach alpha range from 0 to 1, with higher values (typically above 0.70) indicating that items measure the same underlying construct reliably hence meaning the responses are not by chance but are genuine.

CHAPTER 4: RESULTS

4.1 Demographic characteristics

During the household survey, quantitative data was collected on demographic characteristics of the households. Table 4.1. present results of the socio-demographic characteristics of the household heads in Tsavu section. Results show that the surveyed household heads comprised of 53.2% males and 46.8% females. About 39% of the study household heads were aged above 45 years, 22.5% aged between 36 and 45 years, 26% aged between 25 and 35 years and 12.6% aged between 18 and 24 years. The majority of the household (60.2%) were male-headed, while the rest were female-headed households.

About 62.3% of the household heads were married, 17.3% widowed, 13.0% divorced. Only 4.3% and 3.0% were single and separated respectively. In terms of household size, 54.5% of the households had members between one to four members, 42% had household size of between five and eight and only 3% had household members of more than nine. The study area generally was characterized by farming activities with 89.2% households depending on farming.

Size of land for farming was also sought from the households and results are presented on Figure 4.1. The analysis shows that 58.4% of the surveyed households owned land size between one and three acres whereby 26% of them are women. Few respondents (5.2%) owned land size above five acres.

Table 4.1: Demographic Characteristics of Respondents

Variable	Frequency	Percent
Sex of the household head		
Male	123	53.2
Female	108	46.8
Age of the household head		
Between 18 and 25 years	29	12.6
Between 25 years and 35 years	60	26.0
Between 36 years and 45 years	52	22.5
Above 45 years	90	39.0
Household type		
Male-headed household	139	60.2
Female-headed household	92	39.8
Marital status of household heads		
Single	10	4.3
Married	144	62.3
Widowed	40	17.3
Divorced	30	13.0
Separated	7	3.0
Household size		
1 to 4 members	126	54.5
5 to 8 members	97	42.0
9 or more members	8	3.5
Occupation of the household head		
Farming	206	89.2
Formal employment	13	5.6
Casual labour	9	3.9
Business	3	1.3
Total	231	100

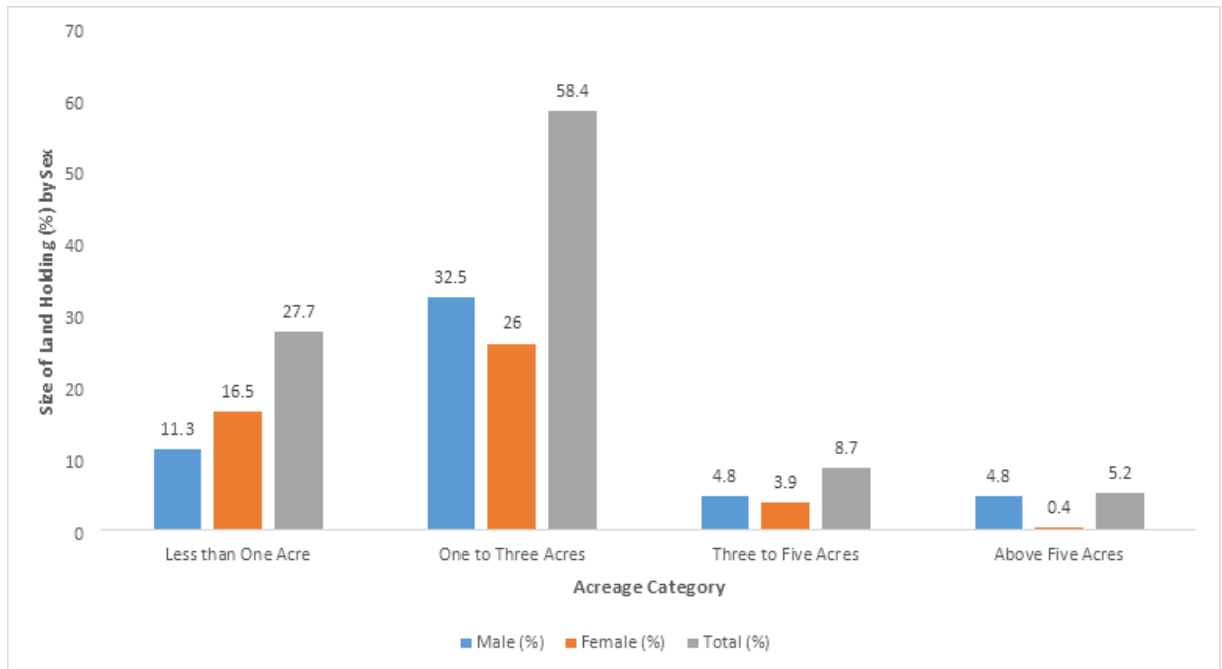


Figure 4.1: Size of land owned by households

4.2 Role of kinship networks on rural households' food availability

To establish the role of kinship networks on availability of food, quantitative data was collected through a household survey using a coded structured survey questionnaire. Qualitative data was also collected using focus group discussions. Table 4.2 presents results on the role of kinship networks on availability of food to rural households. The results showed that the respondents agreed that kinship networks act as source of extra land for food cultivation (M=3.59). Households seek assistance from their kin for labour in crop and livestock production meant for food (M=3.65). The households also depend on their kinship when it comes to sharing seeds, seedling as well as breeds for crop and livestock production meant for home consumption (M=3.80). Households share fertilizers (both organic and inorganic) (M=3.60), herbicides, pesticides, and other agro-

chemicals (M=3.62) within their kinship networks for crop and livestock production. They do share knowledge (M=4.13) and even financial support (M=3.94) to each other when one is in need of it. They do share food in lean period (M=3.90), able to exchange food and non-food items with the desired food within the kinship networks (M=3.96). Overall, it was found that kinship networks have a positive role on food availability among the households within their kinship networks (M=3.849***, $\alpha=0.877$). Higher mean values of M=3.849*** indicating that participants generally agreed on the importance of kinship networks and this indicates a strong perception of kinship networks as vital for enhancing food availability within rural households. The statistically significant level also indicates very strong evidence against the null hypothesis and in this case showing highly significant findings regarding the role of kinship networks on food availability for rural households. Higher overall value of $\alpha=0.877$ also indicating good reliability among items measuring the same underlying construct of food availability.

Table 4.2: Role of kinship networks on rural households' food availability

Opinions	S.D	D	A	S.A	Mean	Std.dev	Cronbach α
If land is not enough, kinship networks act as a source of extra land for food cultivation.	10.8	19.5	39.4	30.9	3.59***	1.377	0.866
I seek for assistance from my kinship network for labour in my crop and	7.4	19	48.9	24.1	3.65***	1.246	0.863

livestock production for food.

I rely on my kinship network for seeds, seedlings or breeds in my crop and livestock production for food. 5.6 16 49.8 28.6 3.80*** 1.182 0.862

I seek for assistance from my kinship network for organic, inorganic fertilizers or feed in my crop and livestock production for food. 10.4 15.2 52.8 21.6 3.60*** 1.267 0.858

I seek for assistance from my kinship network for herbicides, pesticides, medicine or any other agrichemicals in my crop and livestock production for food. 7.8 20.8 44.2 27.3 3.62*** 1.293 0.863

I seek for relevant knowledge from my kinship network for my crop and livestock production to produce enough. 4.3 9.5 41.1 45 4.13*** 1.1 0.873

My kinship network 4.3 15.6 41.6 38.5 3.94*** 1.184 0.867

provides a readily available source of financial support for my food, crop and livestock production.

Am able to exchange food and non-food items with the desired food my household desires within my kinship network. 6.9 14.3 33.8 45 3.96*** 1.285 0.869

During harvesting, my kinship network offers different kinds of assistance. 3 9.1 34.6 53.2 4.26*** 1.052 0.875

Whenever I think of buying food for my household, my kinship network is a readily available food market. 7.8 12.6 45.9 33.8 3.85*** 1.235 0,868

In case of limited stocks of food for my household for the whole year round, my kinship network come in to provide the shortfall of my household food. 8.7 13.9 34.2 43.3 3.90*** 1.328 0,862

Overall 3.849*** 0.806 0.877

S.D.= Strongly Agree, D= Disagree. A= Agree, S.A.= Strongly Agree

The quantitative results are consistent with the qualitative findings gathered through focus group discussions. In the discussions, majority agreed that despite having changes in the way people relate nowadays, kinship networks generally provide a readily available means to have food in their households.

For instance, one female participant said:

“In most cases relatives offers some help to most of us through the provision of piecework (ganyu) in exchange for food stuff”. **[08/12/2023-FGD in Tsavu Section].**

Then another female participant shared that:

“We borrow fertilizer from our relatives and payback when we harvest our crops”. **[08/12/2023-FGD in Tsavu Section].**

Then another male participant narrated that:

“We help our relatives in cultivating their farms and one acre of land, they pay us K20,000.00(10.75usd) after harvesting their maize”. **[08/12/2023-FGD in Tsavu Section].**

Similary, another male participant said:

“Relatives help in lending us an ox-cart to carry organic manure to be applied in our field to increase harvest and is cheaper compared to manufactured fertilizer which is very expensive for us”. **[08/12/2023-FGD in Tsavu Section].**

During the focus group discussions, focus group members unanimously agreed that within the kinship network, members help each other in sharing high yielding seeds, knowledge on organic manure production, harvesting crops such as maize, soya and groundnuts and said that the assistance goes a long way.

One female participant said:

“A relative is a fast helper, where you have big problems, they come and rescue you sometimes just help you for free without any cost unlike with someone who is not your relative”, [08/12/2023-FGD in Tsavu Section].

4.3. Contribution of kinship networks to rural households' food accessibility

To examine the contribution of kinship networks on the accessibility of food in rural households, quantitative data was collected through a household survey using a structured survey questionnaire. A qualitative data was also collected using focus group discussions to build a strong case and validate the survey results. Table 4.3 presents results on the contribution of kinship networks on the accessibility of food to rural households within their networks. Results show that kinship networks form part of the household source of food (M=3.90). The kinship network provides a ready market where other households within the network buy or exchange all types of food to relieve each other from travelling long distances (M=4.07) and even accessing farm inputs (M=4.10). The surveyed households also agreed that the kinship network act as source of income for the households (M=4.17) and offers good food prices compared to prices of food at the market (M=4.00). Overall, the results show that kinship network in the area is positively significant towards food accessibility to households within the kinship networks (M=4.047***, $\alpha=0.765$). Evidence of higher mean values of M=4.047*** indicates that participants generally agreed on the reliance of kinship networks. This indicates a strong perception of kinship networks as vital for enhancing food accessibility within rural households. The statistical significant level also indicates a very strong evidence against the null hypothesis and in this case showing highly significant findings

regarding contribution of kinship networks on the accessibility of food for rural households. Higher overall value of $\alpha=0.765$ also indicating good reliability among items measuring the same underlying construct of accessibility of food.

Table 4.3: Role of kinship networks to rural households' food accessibility

Opinions	S.D	D	A	S.A	Mean	Std.dev	Cronbach α
Apart from own food production, my kinship network also forms part of my household source of food.	6.9	11.3	48.1	33.8	3.90***	1.187	0.744
My kinship network provides a ready market where I may buy or exchange all types of food so that I don't travel long distances to find food for my household.	4.3	9.5	47.2	39	4.07***	1.077	0.696
My Kinship network assist so that I don't travel long distances to access farm inputs.	4.8	8.7	45	41.6	4.10***	1.089	0.702
My kinship network offers a source of income that I may use to buy my household food.	3.9	11.3	33.8	51.1	4.17***	1.135	0.741

My kinship network offers good food prices compared to prices when I buy from formal markets.	7.8	12.6	31.6	48.1	4.00***	1.3	0.727
Overall					4.047***	0.876	0.765

S.D.= Strongly Agree, D= Disagree. A= Agree, S.A.= Strongly Agree

These quantitative survey results above agree with qualitative findings of the study. From the qualitative findings gathered through focus group discussions, majority of the household heads agreed that most times they access assistance within their kinship networks.

For instance, one male participant said:

“kinship networks offer an opportunity to have money and buy food stuffs or get the food stuffs on loan and pay back the following year after harvest”. **[08/12/2023-FGD in Tsavu Section].**

Another male participant said:

“We lend each other money to buy farm inputs or even lend a pale of fertilizer, a plate of seeds and pay back after harvest in form of money or the harvested crop”. **[08/12/2023-FGD in Tsavu Section].**

Similarly, a female participant said:

“buying food crops from relatives is cheaper than buying from formal markets”. **[08/12/2023-FGD in Tsavu Section].**

During the discussions, participants unanimously agreed that generally they did not travel long distances to sell their crops since within the kinship networks other members buy or sell crops.

One female participant narrated that:

“If a member wants to sell his/her crops, doesn’t go far distances since some of our relatives buy the produce within at good prices other than selling to vendors who steal from us. Sometimes we put our produce together and ask a buyer to come and buy at good price”. [08/12/2023-FGD in Tsavu Section].

4.4. Influence of kinship networks on rural households’ food stability

To assess the influence of kinship networks on stability of food in rural households, quantitative data was collected through a household survey and qualitative data was collected using focus group discussions. Table 4.4 presents results on the influence of kinship networks on food stability in rural households. It was revealed that the kinship networks form the part of food recovery plan in times of food shortage (M=3.76). Households agreed that in case of adverse weather conditions and sickness the kinship networks help to make sure that there is food availability (M=3.93). Similarly, results show that kinship networks come into play when the food prices are high and the households within the network access cheaper food (M=3.76). It was also noted that the kinship network provides piecework to the households within the networks to ensure that those kin members raise money to buy food items (M=4.26). The households within the kinship network also lend money to each other to buy food items in times of need (M=4.22). Sharing and exchange of services, food and agricultural products happen in the households within the kinship networks (M=3.805). Overall, the analysis show that

kinship networks have a positive significance on influencing food stability in rural households within the kinship networks ($M=3.966^{***}$, $\alpha=0.728$). The evidence of higher mean values of $M=3.966^{***}$ indicates that participants generally agreed on the importance of kinship networks. This indicates a strong perception of kinship networks as vital for enhancing food stability within rural households. The statistical significant level also indicates a very strong evidence against the null hypothesis and in this case showing highly significant findings regarding kinship networks influencing food stability in rural households. Higher overall value of $\alpha=0.728$ also indicating good reliability among items measuring the same underlying construct of food stability.

Table 4.4: Influence of kinship networks on rural households' food stability

Opinions	S.D	D	A	S.A	Mean	Std.dev	Cronbach α
In case of food shortage, my kinship network forms part of my recovery plan.	11.7	14.7	32.9	40.7	3.76***	1.187	0.658
In case of adverse weather conditions, sickness, my kinship network assist a lot for my household food availability.	10.4	13	26.8	49.8	3.93***	1.077	0.652
In case of rising food prices, my kinship network come in to assist so that I have enough food for my household always.	11.3	14.7	35.1	39	3.76***	1.089	0.673
My kinship network provides some piece work for me to raise	4.3	6.1	38.1	51.5	4.26***	1.135	0.726

money for my household food.

My kinship network assists my household to never rely on single source of food, such as own production.

8.2	10.8	31.6	49.4	4.03****	1.3	0.701
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I owe some money and food items to my family, friends and shop keepers that came about due to my household food shortage at some point.

5.6	6.5	36.4	51.5	4.22****	4.22	0.738
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Sharing and exchange of services, food and agricultural products happen in my kinship network.

1.7	19.5	54.1	24.7	3.805****	3.805	0.711
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overall				3.966****	0.836	0.728
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S.D.= Strongly Agree, D= Disagree. A= Agree, S.A.= Strongly Agree

The quantitative results agree with the qualitative findings collected through focus group discussions. During the focus group discussions, participants generally agreed that kinship networks offer various mechanisms so that their household food always stay stable. Discussions revealed that kinship networks offer business opportunities to its members whereby members borrow money without interest for running small businesses to make sure that they are not short of food throughout the year. They also said that some kinship members provide Dambo land for horticultural production within the network, so that they do not fall short of food throughout the year. The land provided is used for

cultivating horticultural crops during dry season and the harvested crops are either consumed, or sold to buy staple food. This ensures that they have a full assurance of food availability throughout the year. It was also revealed that kinship networks provide different kinds of piece works, (*ganyu*) to make sure that members do not fall into heavy debts due to food shortage. They narrated that it is mostly within the kinship network where sharing and exchange of services, food and agricultural products happen such as exchanging meat with maize, making a grain store in exchange of maize where members agree on the measurement. Watering tobacco nursery beds or vegetable crops in exchange of food just to mention a few.

CHAPTER 5: DISCUSSION

5.1 Demographic characteristics of the respondents

Results of socio-demographic characteristics of the respondents shows that the study area generally was characterised by farming activities with 89.2% households depending on farming. This is in agreement with the results presented on Figure 4.1, that shows that 58.4% of the surveyed respondents owned land size between one and three acres whereby 26% of them are women. Few respondents (5.2%) owned land size above five acres. The socio-demographic characteristics results coupled with observations in the field during the study further show that the respondents were composed of typical rural villagers that the study required. The people in the area were typically blood, marriage and friendship related. This is in agreement with multiple studies that show that blood, marriage and friendship are the three types of relationships dominant and most meaningful forms of social connections in rural areas. Rural social networks such as in rural Africa are characterised by strong bonds among kin (blood and marriage) and friends, with each type playing a distinct role in social support and crisis management (Myroniuk, Prell and Kohler 2017; Hruschka, Munira and Jesmin 2023)

5.2 Role of kinship networks on rural households' food availability

Kinship networks significantly enhance food availability for rural households. Quantitative data presented in Table 4.2, indicates that these networks provide access to extra land (M=3.59), labour assistance (M=3.65), and shared resources like seeds (M=3.80) and fertilizers (M=3.60). Households also exchange knowledge (M=4.13) and financial support (M=3.94), particularly during lean periods (M=3.90). Qualitative

findings also reinforce these results, highlighting practices such as borrowing fertilizers and sharing labour for crop cultivation. Overall, kinship networks play a crucial role in alleviating food insecurity, supported by strong statistical evidence. These findings emphasise the critical role of kinship networks in enhancing food security for rural households.

The respondents agreed that kinship networks facilitate resource sharing such as land, labour, seeds, and knowledge. This means that kinship networks enable households to cultivate food more effectively and cope with food shortages even during lean periods. Strategic access to arable land has a great role in food security as it enables households to expand agricultural output through diversified crop cultivation hence higher yields resulting into improved resilience against food shortages. Access to arable land is fundamental for food security because it enables households to increase agricultural output, diversify crops, and improve resilience to food shortages. Studies emphasise that arable land is a limited and crucial resource for guaranteeing food security, serving as the foundation for food production. Loss or reduction of arable land directly threatens food security, while access and sustainable use are essential for long-term resilience (Lan et al. 2023). When households agree to borrow land from relatives for food security, it reflects broader themes of land tenure security and resource governance. Secure access to land enhances agricultural productivity, which is vital for food security, especially in marginalized groups like women and youth

Availability of labour from the results show that households can cultivate more land due to available labour from their kinship networks that also offer assistance in harvesting crops such as maize, soya and groundnuts and this result into more productivity as

harvest losses are minimised. These results agree with other studies that confirm that increased availability of household or family labor enables smallholder farmers to cultivate more land and manage key agricultural tasks more effectively, resulting in higher productivity and reduced harvest losses. A study on small-scale arable crop farmers in Nigeria found that family labor is heavily utilised for activities like planting, weeding, and fertilizer application, which are critical for maximising yields and minimizing losses (Koledoye 2024). The research highlights that the strategic use of family labour in these tasks improves efficiency and aligns with traditional practices, leading to better productivity. Research on Ugandan cocoa farms demonstrated that greater household labor availability leads to increased implementation of good pest and disease management practices, which directly supports higher productivity and reduced crop losses (Tennhardt 2024). Another study notes that smallholder farmers often rely on family labour, especially when farm sizes are small, to meet their cultivation needs and ensure timely completion of labour-intensive tasks, ultimately supporting higher yields. Farming operations must be done in a timely manner. If a farmer is ill and cannot complete a critical task on time, the work of a whole season may be lost hence becoming food insecure.

Sharing of high yielding seeds and fertilizer reduces the burden of buying seeds and fertilizer from markets which are expensive hence this makes many households think of cultivating more land since seeds and fertilizers as main inputs are available and with favourable conditions they might harvest more food and that food can be available for many months or even the whole year round hence households being food secure. The results also show knowledge sharing being done by households. This Implies that the

households share good methods of farming technologies and also share knowledge on organic manure production which if well followed boost productivity and enable households have enough food for some time. These results agree with Humphreys, Poyser and Taylor (2016) findings, from their survey in rural townships of Lilongwe where they discovered that the strength of kinship lay in the promotion of sharing and communalism. The act of sharing is in line with what Agree et al. (2000) who also noted that the strong norms of devoted support among the kin ensure that obligations are respected and acted upon. Moral obligations towards sharing and redistribution are supported by customs and norms, enabling kinship members to claim assistance from their relatives in dealing with difficulties (Platteau 1991). The results also agree with several studies that suggest a positive correlation between kinship networks in form of social capital, technology adoption, crop productivity, food security and income (Kehinde and Adeyemo et al. 2020). Social networks have a statistically positive and significant impact on the adoption of agricultural innovation (Isham 2000; Krishna 2001). Studies of kinship networks on adoption of agriculture technologies as demonstrated by Conley and Udry (2010) in Ghana also show that pineapple farmers were more likely to try a new practice when a close contact who is kin carried out the practice successfully. Kiptot et al. (2006) who examined the diffusion of agroforestry technologies through kinship and friendship networks in western Kenya, also found positive results. This underscores the importance of social networks as a factor that could have a significant impact on the adoption of agricultural innovations and technologies there by boosting their crop production and increasing availability of food. It has also been found that kinship networks help the farmers to pool their scarce economic resources together in order to help themselves in their farming operations hence

minimizing costs (Okunmadewa et al. 2005; Di Falco and Bulte 2011; Wossena et al. 2015; Kehinde et al. 2021).

The ability to exchange food and support each other financially strengthens resilience against shocks especially during lean periods hence these kinship networks help in alleviating food insecurity. A study in Tanzania highlighted that food gifting within kinship networks serves as a coping mechanism for food scarcity, reinforcing the importance of these networks in maintaining food security (Yang 2017). These results agree with what Ligon, Thomas and Worrall (2001) noted that the reason why people share their crops or livestock is that they expect to become recipients in the future, although the exact time and extent of the reciprocation may not be known at the date of the transaction. The aim is that once they share food or money today, they will receive assistance from those they assisted hence being food secure always.

The discussion above just shows that factors of food production are promoted within kinship networks hence enhancing food security. This discussion is also consistent with the social capital theory reviewed which relates well with kinship networks. Kinship networks fall under ‘bonding’ social capital as explained in the theoretical framework by (Leonard 2004; Putnam 2000; Woolcock 2001). From the social demographic characteristics of the respondents, it has been found that the people are alike on key personal characteristics (e.g. class, race, ethnicity, education, age, religion, gender) with more inward-looking, protective, and exercising close membership hence good for undergirding specific reciprocity and mobilising informal solidarity (Van Oorschot et al. 2006). The results show that the households promote communication and relationships necessary to pursue common goals such as sharing land, farm inputs just to make sure

that everyone produce enough food to feed his/her household thereby improving food security in the households.

5.3. Contribution of kinship networks on rural households' food accessibility

Kinship networks significantly enhance food accessibility for rural households. Survey results presented in Table 4.3 indicates that these networks serve as vital food sources (M=3.90) and facilitate local markets, reducing travel for food (M=4.07). They also provide income support (M=4.17) and better prices than formal markets (M=4.00). Qualitative findings support this by revealing that kinship members lend each other money for food and farm inputs, making transactions cheaper and more convenient. Overall, kinship networks are crucial for food security, with strong statistical evidence supporting their positive impact.

The findings emphasise the vital role of kinship networks in enhancing food security for rural households. Households having access to food means that kinship networks serve as an available source of food, particularly during times of scarcity and provide mutual support that reduces vulnerability to food insecurity hence enabling households to cope with food scarcity. This is in line with a study in the Phalombe District which showed that bonding social capital, often formed through kinship networks, is positively associated and significantly improve household access to food, particularly for female-headed households (Craig et al. 2023). This highlights the importance of kinship networks in enhancing food security in Sub-Saharan Africa. Another study on food gifting behaviour among smallholders in Tanzania revealed that kinship networks play a critical role in coping with food scarcity. Households engaging in food gifting within kinship networks had better food security outcomes (Yang 2017). Access to financial

resources where households seek help by borrowing money to buy food without any collateral or even borrow food and pay back when they harvest through kinship networks reflects strong social capital, which enhances the household's ability to cope with economic shocks and maintain food security since the households may buy food in times of hunger hence never sleep on an empty stomach. These results are consistent with Carter and Castillo (2002) who emphasise that kinship networks based on trust and informal enforcement mechanisms provide an avenue of access to credit and insurance. Similarly, these results agree with Di Falco and Bulte (2011) who found that in the absence of access to formal financial institutions, traditional sharing norms imply a safety net for the unlucky and less able. Access to Inter-household markets provides a ready market where other households within the network buy or exchange all types of food to relieve each other from travelling long distances and offer good food prices compared to prices of food at the market. This means that kinship networks help to lessen risks associated with market fluctuations and agricultural challenges, and ensures access to nutritious food and fostering community support systems that are vital in times of need hence improving food security. This improves immediate food access, and fosters long-term resilience, suggesting that strengthening kinship networks could be crucial for sustainable food security strategies in rural areas. These results are clear indication that rural households depend on one another to access food or money to buy food. One of the essential features of kinship networks, next to the formation of strategic alliances between kinship members is the provision of economic and social security to its members via redistribution and sharing there by enhancing accessibility of food and other services thereby maintaining food security (Di Falco and Bulte 2009). Whiteside (2000)

from his study observed that helping one another in times of economic distress constitutes one of the social safety nets that the rural poor survive on in Malawi.

Members borrow a bag of maize and pay back two bags of maize after harvest or sometimes get a bale of maize and cultivate a portion of land equivalent to the amount of maize collected clearly shows how kinship members make sure that food security is maintained within the network. These findings are consistent with what Bledsoe (2002) terms the "wealth in people" system. La Ferrara (2003) also explains from his study how in developing countries, especially in Africa, extended family links have substituted for missing credit markets. La Ferrara notes that this is particularly crucial in societies that are poor and prone to economic shocks (e.g. agricultural societies in developing countries), with severe credit market imperfections and where the state provides few or no social safety nets. With the absence of 'formal' financial markets and insurance opportunities, many people in developing countries depend on informal community structures such as kinship networks to provide social security and reduce their exposure to risk (Fafchamps and Lund 2003).

This is also reflected in social capital theory from which this study is guided. Social capital theory is basically described as; a collective asset in the form of shared norms, trust, networks, social relations, and institutions that facilitate cooperation and collective action for mutual benefits pioneered by Bourdieu (1986); Coleman (1988); Putnam (1993). The study shows that households value kinship networks. This is evident in the trust and informal enforcement mechanisms. The trust provides the only avenue of accessing credit in form of food and money, and kinship networks is a form of insurance on its own as explained by Carter and Castillo (2002). This is also what was found in

southern Malawi where bonding social capital, often rooted in kinship networks, is associated with better household food access as they help in alleviating hunger during food insecure periods, the combination of bonding and bridging facilitates access to resources, collective decision-making and reduced transaction costs particularly for female headed households (Craig et al. 2023). From this discussion it can be concluded that rural households basically depend on their kinship networks to access different amenities that can range from credits for their household that can be inform of money, food itself sometimes exchange of food with other non-food items thereby maintaining food security of their households.

5.4. Influence of kinship networks on rural households' food stability

Kinship networks significantly enhance food stability in rural households. Quantitative data results in Table 4.4, indicates that these networks play a crucial role during food shortages (M=3.76), adverse weather, and health crises (M=3.93). They facilitate access to cheaper food when prices rise (M=3.76) and enable financial support through loans (M=4.22) and piecework opportunities (M=4.26). Qualitative findings support this by revealing that kinship networks provide interest-free loans for businesses and land for horticulture, ensuring year-round food access and availability. Overall, kinship networks are vital for food security, with strong statistical significance supporting their positive impact on household stability. The results indicate that kinship networks are crucial for enhancing food security in rural households as they provide a safety net during food shortages, enabling resource sharing, financial support, and access to cheaper food. This mutual assistance reduces vulnerability to food insecurity, particularly during adverse conditions like drought or economic hardship.

It has been revealed that the kinship network forms part of food recovery plan in times of food shortage meaning that the networks serve as informal risk-coping strategies, allowing households to share food and resources during shortages, thereby improving food security. Respondents also agreed that kinship network comes into play when the food prices are high and the households within the network fail to access food. This means that whenever there is a rise in food prices, kinship networks offer extra money to buy food or sometimes provide extra food to meet household food demand either on loan hence maintaining food security. This kinship borrowing serves as an informal risk-coping strategy in maintaining food security that helps households manage fluctuations in income and food availability without resorting to high-interest loans or formal credit.

Households also agreed that in case of adverse weather conditions and sickness, the kinship network offer assistance in terms of food or money. This act is very vital for food security to be maintained since the assistance rendered inform of food gifting, money and others provides additional resources without the expectation of immediate repayment thereby enabling households to have food throughout the year even in lean periods. These results are similar with results of a study in Kenya that emphasised on the resilience of kinship networks as safety nets during crises, such as the COVID-19 pandemic, illustrating their critical role in supporting food security through strengthened community ties. The study found that larger, well-connected communities enhance household food security. Households reported that sharing food within these networks is crucial for maintaining food access, especially after environmental shocks like flooding (Nyabundi 2023).

It has also been noted that the kinship network provides piecework to the households within the network to ensure that they raise money to buy food items. This act reduces exposure of households to hunger because the members can work to receive food or receive money that can be used to buy food hence improving household food security. Households frequent borrowing of money within kinship networks or sometimes households relying on loans from relatives during food shortages or emergencies, allow them to purchase food and mitigate immediate food insecurity, hence able to manage food insufficiency and this reflects the importance of kinship networks in providing economic relief during crises as they can buy food items.

Sharing and exchange of services, food and agricultural products that happen between households within the kinship network has a positive significant on food security. Households may exchange their assets with food during lean periods or during crisis thereby ensuring continued access to food and availability. This is a clear indication of a strong perception of kinship networks as vital for enhancing food stability that in turn results into improved food security within rural households. The results are consistent with what Whiteside (2000) from his study found. He observed that helping one another in times of economic distress constitutes one of the social safety nets that the rural poor survive on in Malawi. Similarly, Humphreys et al. (2016) observed the same from a walk in the rural townships of Lilongwe, where they found that kinship networks acts as safety nets for the disadvantaged who are victims of poverty in rural Malawi.

Kinship network offering business opportunities to its members by borrowing money within their kinship networks for running small businesses is basically a way of making sure that they are not short of food throughout the year since the little profits made is

used to buy food and pay back the loan without any collateral hence maintaining food security of their households. This is in line with what Nordman (2016), who noted that performance of micro enterprises and small enterprises, especially household businesses, depends greatly on the presence of an efficient family and kinship network in which the business owner is embedded. These findings are also in agreement with Egbert (2009), who observed that 56% of entrepreneurs of African origin obtain financial support from their extended families which is not usually a burden to their enterprises. In addition, some “provide Dambo land for horticultural production within the network”. The land provided are used to cultivate horticulture crops during dry season which are either consumed or sold to access staple food hence assured of being food secured throughout the year. This is a kind of insurance for kinship members against food shortage as explained by Fafchamps and Lund (2000) who say that informal insurance structures reduce exposure to risk and provide social security.

From the results and findings above, kinship networks provide various mechanisms in enhancing the stability of food systems in rural households. These mechanisms though being informal risk-sharing arrangements act as a buffer against food shortages, especially during times of crisis such as droughts or crop failures and this results into improved food security of households. Fafchamps and Lund (2003) found the same in their "Risk-sharing networks in rural Philippines," published in the *Journal of Development Economics*, that examines how rural Filipino households manage income and expenditure shocks through informal networks. The study analysed the roles of gifts, loans, and asset sales in these networks and highlight the importance of kinship networks in risk-sharing mechanisms and found that such networks are crucial for economic

resilience in rural communities. Similarly, this is also in agreement with what Ankrah (1993), Mtika (2000) found in some parts of Malawi. They found that kinship networks have played a role in combating threats that Malawian people still face such as food insecurity through food sharing, caring for each other in illness such as HIV/AIDS, Lack of funds to finance access to adequate health care, shared funeral costs, ability to absorb orphans into the village when required. This gives more insight on how kinship networks allow households to cope with unexpected shocks and exposure to risks hence ensuring that households have access to food even when their own food production is insufficient.

These results are reflected in the theoretical framework guiding this study. They fall into the cognitive category of social capital, that is derived from ideas that are reinforced by culture and ideology. Such ideologies specifically norms, values, attitudes and beliefs contribute to cooperative behaviour and mutually beneficial collective actions (MBCA). Households in the kinship network offer all this assistance with expectations that they do not fall into any food security challenge. The assistance is like a way of keeping food for future use in times of crisis. Coleman (1988), Putnam (1993) as pioneers of this social capital theory explain that norms, values, attitudes and beliefs create a behavioural phenomenon known as expectations about how people should act and will act. In the case of this study, social capital theory relates to whether people will be cooperative or not, whether they will be generous or not. It also extends to the decisions they make subsequently, since their negative choices could determine whether they will be helped when they are in need. Consequently, people are cognitively assured that their food security is maintained.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

In this study, attention has been on the contribution of kinship networks on the availability, accessibility and stability of food in rural households that in turn results in maintenance of food security in selected villages of Tsavu section, Chipuka EPA, Ntchisi District. The results of the study indicate that kinship networks are necessary in rural households' food security as they significantly play a role on food availability, significantly contribute to the food accessibility and also influence food stability among the people in rural households of Chipuka EPA, Ntchisi District since it forms part of their food production, food acquisition and recovery plan in times of food shortage.

The study has revealed that kinship networks have a role on food availability among the households within their kinship networks ($M=3.849^{***}$, $\alpha=0.877$). This indicates a strong perception of kinship networks as vital for enhancing food availability that in turn results in maintenance of food security within rural households.

The results and findings have revealed that kinship network in the area is positively significant towards contribution to food accessibility to households within the kinship network ($M=4.047^{***}$, $\alpha=0.765$). This indicates a strong perception of kinship networks as vital for enhancing accessibility of food within rural households that in turn results in maintenance of food security as a whole.

The study has also found that kinship networks have a positive significance on influencing food stability in rural households within the kinship networks ($M=3.966^{***}$, $\alpha=0.728$). This indicates a strong perception of kinship networks as vital for enhancing

food stability within rural households. Kinship networks forms part of food recovery plan.

6.2 Recommendations

To enhance food security in rural households through kinship networks, several recommendations can be made based on the understanding that kinship networks contribute significantly to the availability, accessibility, and stability of food resources which in turn maintain food security. Based on the study findings, below are some actionable recommendations:

- CDOs, NGOs, leaders to strengthen and support kinship networks by having community-based programs that build social capital, resource sharing, improve financial and agricultural support within networks as a key strategy to enhance food production and availability.
- Local departments, donor agencies to come up with programs that encourage mutual aid, sharing of resources, and cooperative farming that will enhance food accessibility within rural households.
- Local NGOs, leaders, social workers come up with initiatives that encourage participation within networks in food sharing, mutual support, and resource exchange for collective food recovery and support that will enhance food stability and improve resilience against food insecurity in rural households.

6.3 Limitations and Suggestions for Further Research

While this study provides valuable insights into the role of kinship networks towards the availability, accessibility and stability of food in rural households that in turn results in maintenance of food security, it is essential to acknowledge some limitations that may affect the generalizability and applicability of the findings.

First, the study was done in selected villages of Tsavu section, Chipuka EPA, Ntchisi District which has basically matrilineal kinship type of social system where lineage, group membership, and inheritance are traced exclusively through the mother's line which may limit the depth of understanding regarding the experiences and perceptions of kinship networks on food availability, food accessibility and food stability.

While this research focused on role of kinship networks on food security in rural households, it did not explore the interplay between kinship networks and other variables, such as economic or cultural contexts, that may also influence food availability, accessibility and stability in rural households.

There is need for further studies to deepen understanding of kinship networks and their multifaceted roles in food security and social support. This Current research highlights the importance of kinship networks in resource sharing and informal risk management, yet gaps remain in exploring how these networks function under various socio-economic conditions and cultural contexts that has different kinship types of social systems as well as the interplay between kinship networks and formal support systems, particularly in crisis situations like pandemics. This continued research will provide insights into optimising kinship networks for better food security outcomes.

REFERENCES

- Agree, EM, Biddlecom, AE & Valente, TW 2005, 'Intergenerational transfers of resources between older persons and extended kin in Taiwan and the Philippines'. *Population Studies*, 59(2), 181-195. <https://doi.org/10.1080/00324720500099454>.
- Akanle, O, Fayehun, OA, Adejare, GS & Orobome, OA 2019, 'International Migration, Kinship Networks and Social Capital in Southwestern Nigeria', *Journal of Borderlands Studies*, 36(2), 319–332. <https://doi.org/10.1080/08865655.2019.1619475>
- Akresh, R 2007a, 'Risk, Network Quality, and Family Structure: Child Fostering Decisions in Burkina Faso', BREAD Working Paper No. 65.
- Alesina, A, Harnoss, J & Rapoport, H 2016, 'Birthplace diversity and economic prosperity', *Journal of Economic Growth*, vol.21, no.2, pp101–138. <https://doi.org/10.1007/s10887-016-9127-7>
- Aldrich, DP 2010, 'Fixing Recovery: Social Capital in Post-Crisis Resilience', Department of Political Science Faculty Publications. Paper 3. Available at. <http://docs.lib.purdue.edu/pspubs/3>.
- Anheier, H & Kendall, J 2002, 'Interpersonal Trust and Voluntary Associations', *British Journal of Sociology* vol. 53, pp343–362.
- Ankrah, EM 1993, 'The impact of HIV/AIDS on the family and other significant relationships: The African clan revisited', *AIDS Care*, vol. 5, no. 1, pp5–22. <https://doi.org/10.1080/09540129308258580>

Bau, N & Fernández, R 2016, 'Culture and the family. In A. V. Banerjee & E. Duflo (Eds.), *Handbook of field experiments* Vol. 2, pp. 99-140. Elsevier. <https://doi.org/10.1016/bs.hefe.2016.10.001>

Barclay, K & Conley, D 2024, 'The Influence of Extended Kin on Educational Achievement: An Examination of Cousin Order and Cousin Group Size', *American Journal of Sociology*, vol. 129, no. 6.

Barr, A & Oduro, A 2002, 'Ethnic fractionalization in an African labour market', *Journal of Development Economics*, vol. 68, pp355–379.

Bentolila, S & Ichino, A 2006, 'Unemployment and Consumption Near and Far Away from the Mediterranean?'. *Journal of Population Economics*, *forthcoming*.

Braun, V & Clarke, V 2006, 'Using Thematic Analysis in Psychology,' *Qualitative Research in Psychology*. vol. 3, no. 2, pp77-81.

Bromberger, C 2005, 'Famille et parenté dans la plaine du Gilân (Iran)', in Kian-Thiébaud, Azadeh; Ladier-Fouladi, Marie (eds), *Famille et mutations sociopolitiques, l'approche culturaliste à l'épreuve*, Paris, Éditions de la Maison des Sciences de l'Homme, pp125-142.

Capital, F 2024, 'Family business opportunity: The Power of Kinship: Networking in Family Business Circles', Retrieved from <https://fastercapital.com/content/Family-business-opportunity--The-Power-of-Kinship--Networking-in-Family-Business-Circles.html>.

Caulfield, J 2022, 'How to Do Thematic Analysis: A Step-by-Step Guide and Examples', <https://www.scribbr.com/methodology/thematic-analysis/>. Accessed on 3rd July, 2022.

Carter, MR & Castillo, M 2002, 'The economic impacts of altruism, trust and reciprocity: An experimental approach to social capital', Staff Paper 448 (Madison: University of Wisconsin–Madison, Dept. of Agricultural & Applied Economics)

Coleman, JS 1988, 'Social Capital in the Creation of Human Capital', *American Journal of Sociology (Supplement)*, vol. 94, pp95-120.

Conley, TG & Udry, CR 2010, '"Learning about a New Technology: Pineapple in Ghana', *American Economic Review*, vol. 100, no. 1, pp35-69. doi:10.1257/aer.100.1.35

Craig, A, Smith, B, Johnson, C, Lee, D, & Brown, E 2023, 'Linking household access to food and social capital typologies in Phalombe District, Malawi'. *Sustain Sci* 18, 1721–1737 (2023). <https://doi.org/10.1007/s11625-023-01329-w>

Creswell, J & Poth, C 2013, 'Qualitative Inquiry and Research Design: Choosing Among the Five Approaches. (4th edition)', Los Angeles: SAGE Publications

Degefa, T 2009, 'An Assessment of the Role of Local Institutions and Social Capital in Household Food Security: A Case Study at Two Rural Communities in Oromiya Zone, Amhara Region', In S. Ege, H. Aspen, B. Teferra & S. Bekele (Ed.), *Proceedings of the 16th International Conference of Ethiopian Studies*.

Devereux, S & Sabates-Wheeler, R 2004, 'Transformative Social Protection', Brighton: Institute of Development Studies (2004).

Di Falco, S & Bulte, E 2013, 'The impact of kinship networks on the adoption of risk-mitigating strategies in Ethiopia', *World Development*, vol. 43, pp100-110.

Di Falco, S & Bulte, EH 2011, 'A Dark Side of Social Capital? Kinship, Consumption, and Savings', London School of Economics, United Kingdom and Development Economics Group, Wageningen University, and Department of Economics, Tilburg University, Netherlands.

Di Falco, S & Bulte, E 2009, 'Social Capital and Weather Shocks in Ethiopia: Climate Change and Culturally-Induced Poverty Traps', London School of Economics, Working Paper

Dudgeon, P, Blustein, S, Bray, A, Calma, T, McPhee, R & Ring, I 2021. 'Connection between family, kinship and social and emotional wellbeing', Produced for the Indigenous Mental Health and Suicide Prevention Clearinghouse. Cat. no. IMH 4. Canberra: AIHW.

Dzanja, J, Christie, M, Fazey, I & Hyde, T 2015, 'The role of social capital in rural household food security: the case study of Dowa and Lilongwe districts in Central Malawi'. *J Agric Sci* 7(12):165–176

Ebaugh, HR & Mary, C 2000, 'Fictive Kin as Social Capital in New Immigrant Communities', *Sociological Perspectives* vol. 43, no.2, pp189-209.

Evans, D. & Miguel, EA 2005, 'Orphans and schooling in Africa: A longitudinal analysis', Paper C05-143. Center for International Development and Economics Research, University of California, Berkeley, CA.

Fafchamps, M & Gubert, F 2007, 'The formation of risk sharing networks', *Journal of Development Economics*, vol. 83, no. 2, pp326-350.

Fafchamps, M & Lund, S 2002, 'Risk sharing networks in rural Philippines', *Journal of Development Economics* vol. 71, pp261-287.

Fafchamps, M & Lund, S 2000, 'Risk-sharing networks in rural Philippines', Oxford, Oxford University Department of Economics.

Food Agriculture Organisation 2018, 'The state of food security and nutrition in the world', Building climate resilience for food security and nutrition, Food and Agriculture Organization, Rome

Foner, N 1999, 'The Immigrant Family: Cultural Legacies and Cultural Changes', In *The Handbook of International Migration: The American Experience*. Charles Hirschman, et al., eds. Pp257-264. New York: Russell Sage Foundation.

Gibbs, G 2007, 'Analyzing Qualitative Data', SAGE Publications Ltd., New York, U

Gostoli, U & Silverman, E 2020, 'Social and child care provision in kinship networks: An agent based model', *PLoS ONE*, vol. 15, no. 12, e0242779. <https://doi.org/10.1371/journal.pone.0242779> [1].

Granovetter, MS 1995, 'The economic sociology of firms and entrepreneurs', In: Portes, A. (Ed.), *The Economic Sociology of Immigration: Essays on Networks, Ethnicity, and Entrepreneurship*. Russell Sage Foundation, New York, pp 128-165

Harrigan, J 2008, 'Food insecurity, poverty and the Malawian Starter Pack: Fresh start or false start?', *Food Policy*, vol. 33, no. 3, pp237-249.

Humphreys, R, Poyser, L & Taylor, E 2016, 'Understanding Kinship and Development Practice', Makuwira, Nadarajah, Kambewa, Nagalingam (eds.). *Rethinking Development Through Study Tours*: Montfort media.

Hruschka, DJ, Munira, S & Jesmin K 2023, 'Starting from scratch in a patrilocal society: how women build networks after marriage in rural Bangladesh', *Philos Trans R Soc Lond B Biol Sci.* 2023 Jan 16;378(1868):20210432. doi: 10.1098/rstb.2021.0432. Epub 2022 Nov 28. PMID: 36440569; PMCID: PMC9703222.

IPCC 2021 Climate Change 2021, 'The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change', Cambridge University Press, Cambridge, UK.

Isham, J 2000, 'The effect of social capital on fertiliser adoption: evidence from rural Tanzania', In: *Conference on Opportunities in Africa: Micro-evidence on Firms and Households*, April 9th - 10th, 2000, p59.

Jæger, MM 2012, 'The extended family and children's educational success. *American Sociological Review*, vol.77, no.6, pp903-922. <https://doi.org/10.1177/0003122412464040>

Kehinde, AD & Adeyemo, R 2020, 'Effect of social capital dimensions on output and gross margin of cassava farmers in Osun state', *Niger. J. Rural Sociol.* Vol. 20, no. 1, pp37-43.

Kehinde, AD, Adeyemo, R & Ogundeji, AA 2021, 'Does social capital improve farm productivity and food security? Evidence from cocoa-based farming households in south-western Nigeria', *Heliyon* vol. 7, no. 3, e06592, pp1-14.

Kanu, IA 2014, 'Kinship in African Philosophy and the Issue of Development', *International Journal of Humanities Social Sciences and Education*. Vol. 1, no. 9, September 2014, PP1-6 ISSN 2349-0373 (Print) & ISSN 2349-0381 (Online) www.arcjournals.org ©

Kehinde, AD & Adeyemo, R 2020, 'Effect of social capital dimensions on output and gross margin of cassava farmers in Osun state', *Niger. J. Rural Sociol.* Vol. 20, no. 1, pp37–43.

Kerr, RB 2005, 'Informal labor and social relations in northern Malawi: The theoretical challenges and implications of ganyu labor for food security', *Rural Sociol.* 2005, vol.70, pp167–187.

Kiptot, E, Franzel, S, Hebinck, P & Richards, P 2006. 'Sharing seed and knowledge: farmer to farmer dissemination of agroforestry technologies in Western Kenya. *Agroforestry Systems*', 68, 167–179. <https://doi.org/10.1007/s10457-006-9007-8>.

Koledoye, G. 2024, 'Family Labour Utilization among Small Scale Arable Crop Farmers: Evidence from Akoko South West Local Government Area of Ondo State, Nigeri', *Eurasian Journal of Agricultural Research*, vol.8, no. 1, pp96-106

Khoo, SE 2003, 'Sponsorship of relatives for migration and immigrant settlement intention', *International Migration*, vol. 41, no. 5, pp178-186.

Krishnan, P & Sciubba, E 2004, 'Endogenous network formation and informal institutions in village economies', Working paper in economics No. 462. University of Cambridge, UK.

Krishna, A 2001, 'Moving from the stock of social capital to the flow of benefits: the role of agency', *World Dev.* Vol. 29, pp925–943.

Ksoll, C 2007, 'Family networks and orphan caretaking in Tanzania', Mimeo. Economic Growth Center, Yale University, New Haven.

La Ferrara, E & Milazzo, A. 2014, 'Customary norms, inheritance, and human capital: Evidence from a reform of the matrilineal system in Ghana', *American Economic Journal: Applied Economics*, vol. 9, no. 4, pp166-185. <https://doi.org/10.1257/app.20120298>

La Ferrara, E 2003, 'Kin groups and reciprocity: A model of credit transactions in Ghana', *American Economic Review* vol. 93, pp1730–1751.

Lan, Y, Xu, B, Huan, Y, Guo, J, Liu, X, Han, J, & Li, K 2023, 'Food Security and Land Use under Sustainable Development Goals: Insights from Food Supply to Demand Side and Limited Arable Land in China', *Foods*. 2023 Nov 18;12(22):4168. doi: 10.3390/foods12224168. PMID: 38002225; PMCID: PMC10670508.

Leonard, M 2004, 'Bonding and Bridging social capital: reflections from Belfast', *Sociology*; vol. 38, no. 5, pp927-944

Ligon, E., Thomas, J.P. and Worrall, T. (2001) "Informal insurance arrangements with limited commitment: Theory and evidence in village economies". *Review of Economic Studies* vol. 69, pp209–244.

Lukacs, A 2011, 'Kinship networks', In G. A. Barnett (Ed.), Definitions of family. Russell Sage Foundation.

Martin, C 2002, 'Les solidarités familiales: bon ou mauvais objet sociologique?', Debordeaux, Daniel; Strobel, Pierre (eds), Les solidarités familiales en questions. Entraide et transmission, Paris, Maison des Sciences de l'Homme, pp41-72.

McClain-Nhlapo, C 2004, 'Implementing a Human Rights Approach to Food Security', Paper presented at a conference on "Assuring Food and Nutrition Security in Africa by 2020: Prioritizing Actions, Strengthening Actors, and Facilitating Partnerships," held in Kampala, Uganda, April 1-3, 2004. Retrieved December, 23, 2012, from <http://www.ifpri.org/2020africaconference>

Melnikovas, A 2019, 'Towards an Explicit Research Methodology: Adapting Research Onion Model for Futures Studies', <http://www.jfsdigital.org/wp-content/uploads/> Accessed on 8th July, 2023

Mkhwanazi, N & Manderson, L 2020, '(Eds.) Connected Lives: Families, Households, Health and Care in South Africa', Capetown: HSRC Press (2020).

Mokomane, 2012, 'Social protection as a mechanism for family protection in sub-Saharan Africa', *International Journal of Social Welfare*, Vol 22, no. 3, pp248-259.

Margolies, A, Aberman, NL & Gelli, A 2017, 'Traditional leadership and social support in Southern Malawi', International Food Policy Research Institute, Lilongwe

Mtika, MM 2001, 'The AIDS epidemic in Malawi and its threat to household food security', *Human Organization* vol. 60, pp178-188.
<http://dx.doi.org/10.17730/humo.60.2.cnlpmfrrg8hay9xh>

Mtika, MM 2000, 'Social and cultural relations in economic action: The embeddedness of food security in rural Malawi amidst the AIDS epidemic', *Environment and Planning A* vol. 32, no. 2, pp. 345-360

Munshi, K 2003, 'Networks in the modern economy: Mexican migrants in the US labor market', *Quarterly Journal of Economics* vol. 118, pp. 549–599.

Murgai, R 2002, 'Localized and incomplete mutual insurance', *Journal of Development Economics* vol. 67, pp. 245–274.

Myroniuk, TW, Prell, C & Kohler, HP 2017, 'Why rely on friends instead of family? The role of exchanges and civic engagement in a rural sub-Saharan African context', *Afr Stud.* 2017; vol. 76, no. 4, pp. 579-596. doi: 10.1080/00020184.2017.1390911. Epub 2017 Oct 25. PMID: 29755132; PMCID: PMC5944614.

Nahapiet, J & Ghoshal, S 1998, 'Social capital, intellectual capital and the organisational advantage', *Academy of management review* vol. 23, no. 2, pp. 242-266

Nordman, C 2016, 'Do family and kinship networks support entrepreneurs?', *IZA World of Labor* 2016, pp. 262 doi: 10.15185/izawol.262

Nyabundi, AA 2023, 'From kinship networks to culture of relatedness: a shift of safety nets during health pandemics in the kenyan context', *Front. Public Health* 11:1062962. doi: 10.3389/fpubh.2023.1062962.

Okunmadewa, F, Olaniyan, YO, Yusuf, SA, Bankole, AS, Oyeranti, OA, Omonona, BT, Awoyemi, TT & Kolawole, K 2005, 'Human Capital, Institutions and Poverty in Rural Nigeria', Research Report Submitted to African Economic Research Consortium (AERC) Kenya for the second Phase of Collaborative Poverty Research Project.

Parreñas, RS 2005, 'Children of Global Migration: Transnational Families and Gendered Woes', Stanford University Press.

Peng, Y 2004, 'Kinship Networks and Entrepreneurs in China's Transitional Economy', *American Journal of Sociology*.

Phonvisay, A, Suruga, T & Lucero-Prisno, DE 2019, 'Impact of social capital on child nutrition status: The case of three villages in Oudomxay province of the Lao People's Democratic Republic', *J Glob Health Sci.* 2019 May; vol. 1, no. 1: e12. <https://doi.org/10.35500/jghs.2019.1.e12>

Putnam, R 1993, 'The Prosperous Community; Social Capital and Public Life', the American prospect, vol. 13, no. 4.

Putnam, R 2000, 'Bowling Alone: the collapse and revival of American community', Simon and Schuster

Platteau, JP 1991, 'Traditional systems of social security and hunger insurance: Past achievements and modern challenges', in: E Ahmad, J Dreze, J Hills, & A Sen (eds.) *Social Security in Developing Countries* (Oxford: Clarendon Press), pp. 112-170.

Prasad, S 2014, 'Building disaster-resilient micro-enterprises in the developing world', *Disasters* vol. 39, no. 3.

Shah, N, Yount, KM, Shah, MA & Menon, I 2002, 'Living arrangements of Older Women and Men in Kuwait'. *Journal of Cross-Cultural Gerontology*, 17, 37–55.

Sun, S, An, H & Marcoul, P 2014, 'Food gifting, kinship networks and household food security', 2014 Annual Meeting, July 27-29, 2014, Minneapolis, Minnesota 170637, Agricultural and Applied Economics Association.

Taherdoost, H 2016, 'Sampling methods in research methodology; How to choose a sampling technique for research', *International Journal of Academic Research in Management*, vol. 5, pp. 18-27. <https://doi.org/10.2139/ssrn.3205035>

Tennhardt, LM, Lazzarini, GA, Schader, C, Martin, K & Lambin, EF. 2024, 'The role of household labour for sustainable intensification in smallholder systems: a case study in cocoa farming systems'. *Reg Environ Change*. 2024;24(2):83. doi: 10.1007/s10113-024-02243-2. Epub 2024 May 17. PMID: 39620068; PMCID: PMC11608173.

The National Statistical Office of Malawi NSO 2020, published the "National Statistical System Strategic Plan 2019/20 – 2022/23" in June 2020.

Treleaven, E 2023, 'The relationship between extended kin resources and children's healthcare utilization: An analysis of family networks', *Social Science & Medicine*, vol. 310, 2023, 115236. <https://doi.org/10.1016/j.socscimed.2023.115236>[1]

Vervisch, TGA, Vlassenroot, K & Braeckman, J 2013, 'Livelihoods, power, and food insecurity: adaptation of social capital portfolios in protracted crises—case study Burundi', *Disasters* vol. 37, no. 2, pp. 267–292

Van Oorschot, W, Arts, W & Gelissen, J 2006, 'Social Capital in Europe. Measurement and Social and Regional Distribution of a Multifaceted Phenomenon', *Acta Sociological: Journal of the Nordic Sociological Association*: Special Issue on Social Capital vol. 49, no. 2, pp. 149–166.

Wellman, B & Wortley, S 1990, 'Different strokes from different folks: community ties and social support', *Am J Sociol*. Vol. 96, pp. 558–88. doi: 10.1086/229572

Whiteside, M 2000, 'Ganyu Labour in Malawi and Its Implications for Livelihood Security Interventions: An Analysis of Recent Literature and Implications for Poverty Alleviation', Agricultural Research & Extension Network. Network Paper No. 99. Retrieved from <http://www.rimisp.org/FCKeditor/UserFiles/File/documents/docs/pdf/paper99.pdf>

Woolcock, M 2001, 'The place of social capital in understanding social and economic outcomes', *Canadian Journal of Policy Research* 2:11-17.

World Bank 2023, Microdata Library. Available at: <https://microdata.worldbank.org/index.php/home>.

Wossena, T, Bergera, T & Falcoc, SD 2015, 'Social capital, risk preference and adoption of improved farmland management practices in Ethiopia', *Agric. Econ*. Vol. 46, pp. 81-97.

Yang, M 2017, 'Gift Giving with coercion in Rural Communities of Tanzania', MA thesis, University of Alberta, <https://era.library.ualberta.ca/items/>

Yiran, GAB 2016, 'Mapping Social Capital for Adoption to Climate Variability in Savanah Ecosystem of Ghana', Springer International Publishing, Switzerland.

APPENDICES

Appendix 1: Mzuzu University Research Ethics Committee Informed Consent Form (English)



Mzuzu University Research Ethics Committee (MZUNIREC) Informed Consent Form for Research in Transformative Community Development Introduction

I am **Daniel M. Ngwenya** from the Department of Agr-Sciences in the Faculty of Environmental Sciences at Mzuzu University. We are doing research on ***Kinship networks Role on Rural households' food security in Chipuka EPA, Ntchisi.*** This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them of me or of another researcher.

Purpose of the research

This research aims to assess the contribution of kinship networks on food security in rural households of Chipuka Extension Planning Area in Ntchisi District of Malawi.

Type of Research Intervention

This research will involve your participation in answering an individual interview.

Participant Selection

You are being invited to take part in this research because of your capacity as a rural household head and residing in this area.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate nothing will change. You may skip any question and move on to the next question.

Duration

The research takes place from the month of April 2023 to February 2024.

Risks

You do not have to answer any question or take part in the discussion/interview/survey if you feel the question(s) are too personal or if talking about them makes you uncomfortable.

Reimbursements

You will not be provided any incentive to take part in the research.

Sharing the Results

The knowledge that we get from this research will be shared with you and your community before it is made widely available to the public. Following, we will publish the results so that other interested people may learn from the research.

Who to Contact

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact: Doctor Frank Mnthambala(supervisor), Mzuzu University, Private Bag 201, Luwinga, Mzuzu 2. Phone: 0999036237, Email: mnthambala.f@mzuni.ac.mw; or you can contact Mr Zondiwe Jere (co-supervisor), Department of Agr-Sciences, Mzuzu University, Private Bag 201,

Luwinga, Mzuzu 2. Phone: 0991712801/0888176179,
Email:zondiwejere@yahoo.com; or you can also contact Doctor Ulemu Msiska
(postgraduate coordinator), Department of Agr-Sciences, Mzuzu University,
Private Bag 201, Luwinga, Mzuzu 2. Phone: 0994954025,
Email:ulemumsiska2004@yahoo.com;

This proposal has been reviewed and approved by Mzuzu University Research
Ethics Committee (MZUNIREC) which is a committee whose task is to make sure
that research participants are protected from harm. If you wish to find about
more about the Committee, contact Mr. Gift Mbwele, Mzuzu University Research
Ethics (MZUNIREC) Administrator, Mzuzu University, P/Bag 201, Luwinga, Mzuzu
2, Phone: 0999404008/0888641486

Do you have any questions?

Part II: Certificate of Consent

*I have been invited to participate in research about **Kinship networks Role on
Rural households' food security in Chipuka EPA, Ntchisi District.***

I have read the foregoing information, or it has been read to me. I have had the
opportunity to ask questions about it and any questions I have been asked have
been answered to my satisfaction. I consent voluntarily to be a participant in this
study

Print Name of Participant _____

Signature of Participant _____

Date _____

Day/month/year

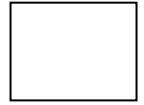
If illiterate¹

¹ A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness _____

Thumb print of participant



Signature of witness

Date

_____ Day/month/year

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands the research project. I confirm the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Signature of Researcher /person taking the consent _____

Date _____ Day/month/year

Appendix 1 b: Mzuzu University Research Ethics Committee Informed Consent Form (Chichewa)



Mzuzu University Research Ethics Committee (MZUNIREC)

Informed Consent Form for Research in Transformative Community Development

Mau oyamba

Ine ndine **Daniel M. Ngwenya** kuchokera ku gawo la maphunziro la Agri-Sciences mu nthambi ya Environmental Sciences ku Mzuzu University. Tikuchita kafukufuku pa *Udindo wa kulumikizana bwino m'maubale kapenanso mmaubwenzi mmabanja a mmidzi pa nkhani zokhala ndi chakudya chokwanira mu dera la za ulimi la Chipuka m'boma la Ntchisi, mdziko la Malawi*. Kalata ya chilolezoyi itha kukhala ndi mau oti simukutha kuwavetsa bwino. Chonde muzindiuza kuti ndiime ndifotokozele pamene tikuchita kafukufukuyu. Ngati muli ndi mafuso ena, fuseni ineyo kapena azanga omwe ndikuchita nawo kafukufukuyu.

Cholinga cha kafukufuku

Kafukufukuyu akufuna kuunika gawo lomwe kulumikizana bwino m'maubale, mmaubwenzi limapereka pa nkhani yokhala ndi chakudya chokwanira mmabanja akumidzi mu dera la za ulimi la Chipuka m'boma la Ntchisi, mdziko la Malawi.

Mtundu wa kafukufuku

Kafukufukuyu akudalila kutengapo gawo kwanu poyankha mafuso amene ndikufuseni mkucheza kwathu.

Mchifukwa chani mwasankhidwa?

Mwasankhidwa kuti muchite nawo kafukufukuyu potengela udindo wanu ngati mutu wa banja pakhomu panu.

Kutengapo gawo pa kafukufuku mosakakamiza

Kutengapo gawo kwanu pa kafukufukuyu mkosakakamiza. Muli ndi ufulu kutengapo gawo kapena ayi. Mukasankha kusachita nawo kafukufukuyu palibe icho chisinthe. Muli ndi ufulu kusiya mafuso ena osayankha mkuyankhako ena.

Kafukufukuyu atenga nthawi yotalika bwanji?

Kafukufukuyu atenga miyezi ingapo kuchokela mwezi wa Epulayelo chaka chino mpakana febuluwale chaka chamawa.

Zodzetsa Nkhawa

Simukuyenera kuyankha mafuso kapena kutengapo mbali mkucheza ngati mukuona kuti mafuso ena salibwino kapena simunasangalare nawo.

Cholowa/Kulipidwa

Kutenga nawo gawo pa kafukufukuyu ndi kwa ulere ndipo simudzalandira kalikonse.

Kugawana zotsatila za Kafukufuku

Zotsatila za kafukufukuyu zidzagawidwa kwa inu amene mutengepo mbali ndi anthu a mdala lanu zisanagawidwe ku mtundu wose wa aMalawi. Zotsatila za kafukufukuyu zidasindikizidwa mu m' buku kuti anthu ose ofuna kuva zambiri za kafukufukuyu athe kutero.

Oti mungathe kulumikizana nawo

Ngati muli ndi mafuso, mutha kufusa panopa kapena nthawi ina. Ngati mukufuna kudzafula nthawi ina chonde alembeleni kalata a Doctor Frank Mnthambala(supervisor) omwe ndi aphuzitsi ku Mzuzu University pa adilesi iyi:, Mzuzu University, Private Bag 201, Luwingu, Mzuzu 2. kapena aimbileni foni pa: 0999036237, Mutha kutumizaso kalata ku imelo adilesi iyi:

mnthambala.f@mzuni.ac.mw; Mutha Kulembelaso Mr Zondiwe Jere (co-supervisor), Department of Agr-Sciences, Mzuzu University, Private Bag 201, Luwingu, Mzuzu 2. foni: 0991712801/0888176179. Imelo adilesi: zondiwejere@yahoo.com; kapenanso mutha kulembelaso Doctor Ulemu Msiska (postgraduate coordinator), Department of Agr-Sciences, Mzuzu University, Private Bag 201, Luwingu, Mzuzu 2. foni: 0994954025, Imelo adilesi: ulemumsiska2004@yahoo.com;

Kafukufukuyu waunikidwa ndi kuvomerezedwa ndi a Mzuzu University Research Ethics Committee (MZUNIREC) yomwe ndi komiti yoonetsetsa kuti ochita nawo kafukufuku ndi otetezedwa mu njira ina iliyose. Ngati mukufuna kuva zambili za komitiyi lumikizani ndi a Gift Mbwele pa adilesi iyi: Mzuzu University Research Ethics (MZUNIREC) Administrator, Mzuzu University, P/Bag 201, Luwingu, Mzuzu 2, Ma nambala awo a foni: 0999404008/0888641486

Muli ndi mafuso Lirilonse?

Gawo lachiwiri: Kalata yovomereza

Ndaitanidwa kuti ndichite nawo kafukufuku pa Udindo wa kulumikizana bwino m'maubale kapenanso mmaubwenzi mmabanja a mmidzi pa nkhani zokhala ndi chakudya chokwanira mu dera la za ulimi la Chipuka m'boma la Ntchisi, mdziko la Malawi.

Ndawelenga komaso andiwelengera zose zoyenera pa kafukufukuyu. Ndinapatsidwa mwayi oti ndifunse mafuso pa kafukufukuyu ndipo mafuso ose ndinafusa andiyankha mogwira mtima. Ndikuvomereza kuchita nawo kafukufuyu mwakufuna kwanga

Dzina la ochita nawo kafukufuku_____

Signature _____

Tsiku_____

Tsiku/Mwezi/Chaka

Ngati ali osatha kelemba ndi Kuwelenga²

Ndaonelela kuwerenga kolondola kwa kalata ya chivomerezo kwa otenga nawo mbali pa kafukufuku. Ndipo otenga nawo mbaliyu anapatsidwa mwayi ofusa mafuso. Ndikutsimikizira kuti otenga nawo mbaliyu wavomereza yekha kutenga nawo mbali pa kafukufukuyu.

Dzina la mboni _____ Otenga nawo mbali *adinde ndi chala apa*

Signature ya mboni _____



Tsiku _____

Tsiku/Mwezi/Chaka

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands the research project. I confirm the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Signature of Researcher /person taking the consent _____

Date _____ Day/month/year

²Mboni yodziwa kulemba imusainile uyu ochita nawo kafukufuku (ngati mkotheke mboniyi isankhindwe ndi uyu ochita nawo kafukufuku osati awo ochititsa kafukufuku). Ochita nawo kafukufuku omwe sadziwa kulemba adindeso ndi chala.

Appendix 2A: Interviewer Administered Survey Questionnaire for Rural Household Heads



ROLE OF KINSHIP NETWORKS ON RURAL HOUSEHOLDS' FOOD SECURITY IN CHIPUKA EPA, NTCHISI, MALAWI.

SECTION A: SOCIO-DEMOGRAPHIC PROFILE

Date: _____ 2. Respondent identity: _____

1. Name of Village: _____ 4. Sex: a. Male= [1] b. Female= [2]

3. How old are you?

5. Below 25 years= [1] b. 25-35 years= [2] c. 35-45 years= [3]

a. Above 45 years= [4]

d. Household type:

a. Male headed = [1] b. Female headed = [2]

6. Marital Status.

7. Single= [1] b. Married= [2] c. Widowed= [3] d. Divorced= [4]

8. Separated= [5]

a. Educational attainment:

a. Never attended school= [1] b. Adult literacy= [2]

c. Primary education= [3] d. Secondary education= [4]

e. Tertiary education= [5]

8. Household size:

a. 1-4 members = [1] b. 5-8 members= [2] c. 9 or more members= [3]

9. Main occupation of household head:

a. Farming= [1] b) Formal employment= [2] c. Casual labour= [3]

d. Business= [4]

**SECTION B: CONTRIBUTION OF KINSHIP NETWORKS ON AVAILABILITY
OF FOOD TO RURAL HOUSEHOLDS OF CHIPUKA EPA**

9. What is the size of the land you have for cultivating crops?

11. One acre = [1] b. Between one to three acres = [2]

c. Between three to five acres = [3] d. Above five acres= [4]

Read the statements carefully to the household head and indicate **the response that reflects his/her opinion** by ticking (✓) in the appropriate column. Use a four-point Likert scale provided below: Any explanations to be written in the comment's column. The rating scale is: **1 = Agree (A): 2 = Strongly Agree(SA): 3 = Disagree(D): 4 = Strongly Disagree(SD).**

opinions		1 A	2 SA	3 D	4 SD	Comments
a. If land is not enough, kinship networks acts as a source of extra land for food cultivation. *						
12. I seek for assistance from my kinship network for labour in my crop and livestock production for food.						
13. I rely on my kinship network for seeds, seedlings or breeds in my crop and livestock production for food.						
14. I seek for assistance from my kinship network for organic, inorganic fertilizers or feed in my crop and livestock production for food.						
15. I seek for assistance from my kinship network for herbicides, pesticides, medicine or any other agrichemicals in my crop and livestock production for food.						

16. I seek for relevant knowledge from my kinship network for my crop and livestock production in order for my household to produce enough.*					
17. My kinship network provides a readily available source of financial support for my food, crop and livestock production.					
18. Am able to exchange food and non-food items with the desired food my household desires within my kinship network such as food crop to food crop, livestock to cereal, wage to cereal, cash crop to cereal and natural resources (charcoal, firewood) to cereal.*					
19. During harvesting, my kinship network offers different kinds of assistance.*					
20. Whenever I think of buying food for my household, my kinship network provides a readily available food market.					
21. In case of limited stocks of food for my household for the whole year round, my kinship network come in to provide the shortfall of my household food. *					

SECTION C: CONTRIBUTION OF KINSHIP NETWORKS ON ACCESSIBILITY OF FOOD TO RURAL HOUSEHOLDS OF CHIPUKA EPA

Read the statements carefully to the household head and indicate **the response that reflects his/her opinion** by ticking (✓) in the appropriate column. Use a four-point Likert scale provided below: Any explanations to be written in the comment's column. The rating scale is: **1 = Agree (A): 2 = Strongly Agree(SA): 3 = Disagree(D): 4 = Strongly Disagree(SD).**

opinions	1 A	2 SA	3 D	4 SD	Comments
22. Apart from own food production, my kinship network also forms part of my household source of food.					
23. My kinship network provides a ready market where I may buy or exchange all types of food so that I don't travel long distances to find food for my household.					
24. My Kinship network assist so that I don't travel long distances to access farm inputs.					
25. My kinship network offer a source of income that I may use to buy my household food.*					
26. My kinship network offer good food prices compared to prices when I buy from formal markets.*					

SECTION D: CONTRIBUTION OF KINSHIP NETWORKS ON STABILITY OF FOOD IN RURAL HOUSEHOLDS OF CHIPUKA EPA

Read the statements carefully to the household head and indicate **the response that reflects his/her opinion** by ticking (✓) in the appropriate column. Use a four-point Likert scale provided below: Any explanations to be written in the comment's column. The rating scale is: **1 = Agree (A): 2 = Strongly Agree(SA): 3 = Disagree(D): 4 = Strongly Disagree(SD).**

opinions	1 A	2 SA	3 D	4 SD	Comments
27. In case of food shortage, my kinship network forms part of my recovery plan. *					
28. In case of Adverse weather conditions, sickness, my kinship network assist a lot for my household food availability.*					
29. In case of rising food prices, my kinship					

network come in to assist so that I have enough food for my household always.*					
30. My kinship network provide some piece work for me to raise money for my household food.*					
31. My kinship network assist my household to never rely on single source of food, such as own production.*					
32. I owe some money and food items to my family, friends and shop keepers that came about due to my household food shortage at some point.*					
33. Sharing and exchange of services, food and agricultural products happen in my kinship network.*					a.Grains and cereals=[1] b.Fruits and vegetables= [2] c.Livestock or meat products= [3] d. Other (please specify) = [4]

Appendix 2A: Focus Group Discussion Points with a group of Rural household heads

1. What contributions do your kinship networks offer on your household's food and income availability?
2. What contributions do your kinship networks provide to your household's food production and agricultural productivity?
3. How do your kinship networks provide ready market for different kinds of food for your households?
4. How does your kinship network assist in improving the physical and financial access to food?
5. How do your kinship networks engage in the sharing and exchange of services, food and agricultural products and what type of services, food and agricultural products are commonly shared or exchanged within your kinship network?
6. In case of limited stock of food for your household for the whole year round, how does your kinship network come in to provide the shortfall of food?
7. When food prices change, how do kinship networks assist in order to maintain the amount of food each household requires?
8. How do your kinship networks assist in reducing debts that may arise due to food shortage and consumption?
9. Explain how your kinship networks act as a safety net for food and money to buy food?
10. What type of piece work do kinship networks offer in order for its members to find money to buy food or services to exchange with food?

Appendix 2B: Mafunso akafukufuku oyenera kufunsa mitu ya mabanja a mmidzi



UDINDO WA KULUMIKIZANA BWINO M'MAUBALE KAPENANSO M'MAUBWENZI AMABANJA A MMIDZI PA NKHANI ZOKHALA NDI CHAKUDYA CHOKWANIRA MU DERA LA ZA ULIMI LA CHIPUKA M'BOMA LA NTCHISI, MDZIKO LA MALAWI.

SECTION A: SOCIO-DEMOGRAPHIC PROFILE

1. Tsiku: _____ 2. Woyankha: _____
- 3, Mudzi: _____ 4. Sex: a. Mwamuna= [1] b. Mkazi= [2]
1. Muli ndi zaka zingati?
 5. zochepera 25= [1] b. Zapakati pa 25-35 = [2] c. Zapakati pa 35-45= [3]
 - b. Zoposera 45= [4]
- e. Mtundu wa banja:
 - a. loyendesedwa ndi Mwamuna= [1] b. Loyendesedwa ndi Mkazi= [2]
6. Ukwati.
 - a. wosakwatiwa/wosakwatira= [1] b. wokwatiwa/wokwatira= [2] c. wamasiye= [3]
 - d. Othetsedwa/okutha= [4] c. wopatukana kaye= [5]
7. Maphunziro omwe muli nawo:
 - a. Sindinayambe ndapitako ku sukulu= [1] b. ya kwacha= [2]
 - c. pulaimale= [3] d. Sekondale= [4] e. ukachenjede= [5]
8. Household size Kukula kwa banja:
 - a. Anthu 1-4= [1] b. Anthu 5-8= [2] c. Anthu 9 kapena kuposelapo= [3]
9. Ntchito yomwe amagwira oyendesa banja/ mwini khomo:
 - a. Ulimi= [1] b) Ntchito yolembedwa= [2] c. Ganyu= [3]
 - d. Bizinesi= [4]

SECTION B: GAWO LOMWE KULUMIKIZANA BWINO MMAUBALE NDI MMAUBWENZI AMABANJA PA KAPEZEDWE KA

CHAKUDYA KU MABANJA A MMIDZI AMU DELA LA ULIMI LA CHIPUKA

10. Muli ndi munda okula bwanji?

a. Ekala imodzi= [1] b. Pakati pa ekala imodzi ndi atatu = [2]

c. Pakati pa ma ekala atatu ndi asanu= [3] d. Kuposela ma ekala asanu= [4]

Werengani ziganizo zili mmusizi kwa mtsogoleri wa banja ndipo wonesani maganizo awo pochonga mu bokosi lamaganizidwe anayi apelekedwa mmusimu. Mafotokozedwe ena onse ayenela kulembedwa mu bokosi la ndemangalo. Maganizo anayi ali motere: 1= kuvomereza (A) 2= kuvomereza kwathunthu (SA) 3=ndikukana (D) 4= ndikukanitsitsa (SD).

Maganizo	1 A	2 SA	3 D	4 SD	Ndemanga
b. Munda wanga ukachepa kulumikizana bwino mmaubale kapenanso mmaubwenzi amabanja imakhala njira ina yakapezedwe ka minda ina yowonjezera kulimamo chakudya. *					
12. Ndimasaka chithandizo cha ganyu pa ulimi wanga olima chakudya kuchoka mu kulumikizana bwino mmaubale kapenanso mmaubwenzi amabanja.					
13. Ndimadalira kulumikizana bwino mmaubale ndi mmaubwenzi amabanja pakapezedwe ka mbeu zakumunda kapenanso za ziweto pa ulimi wanga.					
14. Ndimasaka chithandizo cha manyowa, mchere wa nthaka kuchoka mukulumikizana bwino mmaubale ndi mmaubwenzi amabanja pa ulimi wanga.					
15. Ndimasaka chithandizo cha mankhwala aza ulimi wanga wa zolima ndi ziweto kuchokera mukulumikizana bwino mmaubale ndi mmaubwenzi amabanja.					
16. Ndimasaka chithandizo cha upangili kuchokera mukulumikizana bwino mmaubale ndi mmaubwenzi amabanja mu ulimi wa					

mbeu ndi ziweto kuti ndizikolore zokwanira. *					
17. Kulumikizana bwino mmaubale ndi mmaubwenzi kumabweresa chithandizo chopezekelatu chakapezedwe ka ndalama zogulira chakudya ndi ulimi wanga wa mbeu ndi ziweto.					
18. Ndimatha kusinthisa zakudya zanga ndi zina zoti sizakudya kuti ndipeze zakudya zina zomwe banja langa likufuna kuzera mukulumikizana bwino mmaubale ndi mmaubwenzi amabanja. *					
19. Munyengo yokolola, kulumikizana bwino mmaubale ndi mmaubwenzi kumabweresa zithandizo zosiyanasiyana pa ntchito yokolola. *					
20. Nthawi zonse pomwe ndafuna kugula chakudya cha pabanja panga, kulumikizana bwino mmaubale ndi mmaubwenzi amabanja kumapezesa msika opezekeratu wachakudya choti ndigule.					
21. Munthawi yoti ndilibe chakudya chokwanila kudya chaka chonse pa banja langa, kulumikizana bwino mmaubale ndi mmaubwenzi amabanja kumathandiza kuwonjezera chakudya chopelewelacho. *					

SECTION C: GAWO LOMWE KULUMIKIZANA BWINO MMAUBALE NDI MMAUBWENZI AMABANJA AMAPELEKA MWAYI OKAPEZA CHAKUDYA MUMABANJA A MMIDZI AMU DELA LA ULIMI LA CHIPUKA

Werengani ziganizo zili mmusizi kwa mtsogoleri wa banja ndipo wonesani maganizo awo pochonga mu bokosi lamaganizidwe anayi apelekedwa mmusimu. Mafotokozedwe ena onse ayenela kulembedwa mu bokosi la ndemangalo. Maganizo anayi ali motere: 1=

kuvomereza (A) 2= kuvomereza kwathunthu (SA) 3=ndikukana (D) 4= ndikukanitsitsa (SD)

Maganizo	1 A	2 SA	3 D	4 SD	Ndemanga
22. Kupatulako zakudya zomwe ndimalima, kulumikizana bwino mmaubale ndi mmaubwenzi kumakhalanso ngati njra ina yopezela chakudya pa banja langa.					
23. Kulumikizana bwino mmaubale ndi mmaubwenzi amabanja amakhala ngati msika opezekeratu komwe nditha kugula kapenanso kusinthisana ndi zakudya zamitundu yonse kuti nsamathe mitunda kukasaka chakudya chapabanja langa.					
24. Kulumikizana bwino mmaubale ndi mmaubwenzi amabanja kumandithandiza kuti nsamayende mitunda itali itali kokasaka zipangizo za ulimi wanga.					
25. Kulumikizana bwino mmaubale ndi mmaubwenzi kumapeleka mwayi wa kapezedwe ka ndalama zomwe nditha kugwilisa ntchito pogula chakudya cha banja langa. *					
26. Kulumikizana bwino mmaubale ndi mmaubwenzi kumazesa mwayi opeza mitengo yotsika yogulira zakudya za pa banja langa nkafananisa ndimitengo yomwe timapeza kumsika. *					

SECTION D: GAWO LOMWE KULUMIKIZANA BWINO MMAUBALE NDI MMAUBWENZI AMABANJA POSAPELEKA NKHAWA PAKAPEZEDWE KA CHAKUDYA MUMABANJA A MMIDZI AMU DELA LA ULIMI LA CHIPUKA

Werengani ziganizo zili mmusizi kwa mtsogoleri wa banja ndipo wonesani maganizo awo pochonga mu bokosi lamaganizidwe anayi apelekedwa mmusimu. Mafotokozedwe

ena onse ayenela kulembedwa mu bokosi la ndemangalo. Maganizo anayi ali motere: 1= kuvomereza (A) 2= kuvomereza kwathunthu (SA) 3=ndikukana (D) 4= ndikukanitsitsa (SD).

Maganizo	1 A	2 SA	3 D	4 SD	Ndemanga
27. Zitati chakudya nchochepa pa banja langa, kulumikizana bwino mmaubale ndi mmaubwenzi amabanja kumapanga mbali imodzi yopulumukilapo kunjala. *					
28. Kutati kwabwera nyengo yowononga kapena kukanikisa mbeu kuchita bwino, matenda pa banja langa, kulumikizana bwino mmaubale ndi mmaubwenzi kumathandiza kwambiri pakapezedwe ka chakudya pa banja langa. *					
29. Munyengo yoti mitengo ya zakudya ikukwela, kulumikizana bwino mmaubale ndi mmaubwenzi amabanja kumathandiza banja langa kukhala ndi chakudya chokwanila nthawi zones. *					
30. Kulumikizana bwino mmaubale ndi mmaubwenzi amabanja amapezesa mwayi wa maganyu ndi ntchito zina zomwe zimathandiza kusonkha ndalama zogulira chakudya pa banja langa. *					
31. Kulumikizisana bwino mmaubale ndi mmaubwenzi amabanja kumathandiza kusadalira njira imodzi yokha monga kulima pakapezedwe ka chakudya.*					
32. Ndili ndi ngongole ya ndalama ndi ya chakudya kwa abale anga, abwenzi anga ndinso kwa eni ma kantini Kamba ka kupelewela ka chakudya pa banja langa nthawi yina.*					
33. Kugawana ndi kusinthana kwa zakudya, zinthu zaku munda kapenanso milimo ina zimatheka Kamba kakulumikizana bwino mmaubale ndi					a.Grains and cereals=[1] b.Fruits and

mmaubwenzi amabanja.*					vegetables= [2] c.Livestock or meat products= [3] d.Other(specify) = [4]
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Appendix 2B: Mfundo zoyenera kuunikidwa mozama pokucheza ndi gulu lochepa la otsogolera mmabanja a mmidzi.

1. Kodi kulumikizana bwino mmaubale ndi mmaubwenzi amabanja amatengapo gawo lanji pakapezedwe ka chakudya ndi ndalama mmabanja ammidzi?
2. Kodi kulumikizana bwino mmaubale ndi mmaubwenzi amabanja amatengapo gawo lanji pakapezedwe ndi kachulukisidwe ka chakudya mu ulimi
3. Kodi kulumikizana bwino mmaubale ndi mmaubwenzi amabanja amakhala bwanji ngati misika yopezekelatu pa nkhani yakapezedwe ka chakudya chamitundu mitundu pa banja lanu
4. Kulumikizana bwino mmaubale ndi mmaubwenzi amabanja amathandiza bwanji kupitisa patsogolo mwayi opeza chakudya chenicheni kapenanso ndalama zogulira chakudyacho?
5. Kodi mumachita bwanji pa nkhani yogawana ndi kusinthana kwa zinthu, chakudya ndinso zokolola za kumunda komanso ndi zinthu zanja, zakudya ziti ndiponso zokolola za kumunda ziti zomwe zimakondedwa kugawidwa kapenanso kisinthanisidwa mukamalumikizana bwino mmaubale ndi mmaubwenzi amabanja
6. Munyengo yoti muli ndi chakudya chosakwanila mubanja lanu choti sichingakwane chaka chonse, kulumikizana bwino mmaubale ndi mmaubwenzi amabanja kumaloweledwapo bwanji kuti mupeze chakudya chosaliracho?
7. Mitengo ya chakudya ikasintha, kulumikizana mmaubale ndi mmaubwenzi amabanja kumathandiza bwanji kuti mlingo wachakudya chomwe mumagwilisa ntchito pa banja lanu ukhale omwewo?
8. Kulumikizana bwino mmaubale ndi mmaubwenzi amabanja kumathandiza bwanji pochepesa ngongole zomwe zingachuluke Kamba ka kuchepa ngwa chakudya ndi kadyedwe pa banja lanu?
9. Zimakhala bwanji kuti kulumikizana bwino mmaubale ndi mmaubwenzi amabanja chizikhala chowombokelapo nthawi zonse pa banja lanu pakafunika chakudya kapena ndalama zoti mugulire chakudya?
10. Ndi maganyu anji omwe kulumikizana bwino mmaubale ndi mmaubwenzi amabanja kumapezesa ndicholinga choti abale ndi abwenzi apeze ndalama yogulira chakudya kapenanso kusinthana ndi chakudya chenicheni?

Appendix 3: Mzuzu University Research Ethics Committee Approval



MZUZU UNIVERSITY

DIRECTORATE OF RESEARCH

Mzuzu University
Private Bag 201
Luwinga
Mzuzu 2
MALAWI
TEL: 01 320 722
FAX: 01 320 648

MZUZU UNIVERSITY RESEARCH ETHICS COMMITTEE (MZUNIREC)

Ref No: MZUNIREC/DOR/23/124

14/08/2025

Daniel Ngwenya ,
Mzuzu University,
P/Bag 201,
Luwinga,
Mzuzu 2.

Email: danngwenya@yahoo.com

Dear Daniel,

**RESEARCH ETHICS AND REGULATORY APPROVAL AND PERMIT FOR
PROTOCOL REF NO. MZUNIREC/DOR/23/124: ROLE OF KINSHIP
NETWORKS ON RURAL HOUSEHOLDS FOOD SECURITY IN CHIPUKA EPA,
NTCHISI.**

Having satisfied all the relevant ethical and regulatory requirements, I am pleased to inform you that the above referred research protocol has officially been approved. You are now permitted to proceed with its implementation. Should there be any amendments to the approved protocol in the course of implementing it, you shall be required to seek approval of such amendments before implementation of the same.

This approval is valid for one year from the date of issuance of this approval. If the study goes beyond one year, an annual approval for continuation shall be required to be sought from the Mzuzu University Research Ethics Committee (MZUNIREC) in a format that is available at the Secretariat. Once the study is finalised, you are required to furnish the Committee with a final report of the study.

The Committee reserves the right to carry out compliance inspection of this approved protocol at any time as may be deemed by it. As such, you are expected to properly maintain all study documents including consent forms.

Wishing you a successful implementation of your study

Yours Sincerely,



Faith Mwangonde
Research Ethics Administrator.
FOR : MZUNIREC CHAIRPERSON



Mzuzu University Research Ethics Committee
Directorate of Research
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