IMPACT ANALYSIS OF VILLAGE SAVINGS AND LOANS ASSOCIATIONS ON SUSTAINABLE FOOD SECURITY AND LIVELIHOOD STRATEGIES IN TA KILIPULA, KARONGA DISTRICT

MASTER OF SCIENCE THESIS IN TRANSFORMATIVE COMMUNITY DEVELOPMENT

ISAAC CHALIMBANA MKANDAWIRE

MZUZU UNIVERSITY

NOVEMBER, 2021

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A THESIS SUBMITTED TO THE FACULTY OF ENVIRONMENTAL SCIENCE, DEPARTMENT OF AGRISCIENCE IN FULFILMENT OF THE REQUIREMENT FOR A MASTER OF SCIENCE DEGREE IN TRANSFORMATIVE COMMUNITY DEVELOPMENT (TCD)

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DECLARATION

I, Isaac Chalimbana Mkandawire, declare that the work presented in this thesis is a result of my own research effort and that to the best of my knowledge; it has not been previously submitted to Mzuzu University or any other institution of higher learning for the award of any academic qualification. Where other sources of information have been used, acknowledgement has been made accordingly by means of references.

Signature: ……………………………………………………………………………………

Date: ………………………………………………………………………… (Day, month, year)

CERTIFICATE OF COMPLETION

The supervisors undersigned certify that this thesis is a result of the author's own work, and that to the best of our knowledge, it has not been submitted for any other academic qualification within Mzuzu University or elsewhere. The thesis is acceptable in form and content, and that satisfactory knowledge of the field covered by the thesis was demonstrated by the candidate through an oral examination held on ………………………………….. (Day, month and year).

Major supervisor: Professor Wales Singini

Signature: ……………………………………………………………......

Date: ……………………………………………………………………...

DEDICATION

This dissertation is dedicated to my wife Medayi and little one Gomezgani. Wife, you were an inspiration to me throughout this process, and son just at the right time, you brought in the faith and hope in the process that saw me through and through.

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Finally, many thanks to my family, workmates and friends who provided moral support throughout my study. They were very able to understand my situation which mostly demanded that I have little time for them to concentrate whilst they continued to offer encouragement and support.

ABSTRACT

Low access to financial services leading to food insecurity and shacky livelihoods continue to challenge most communities in Malawi. As a way to address this challenge, communities have resorted to promoting savings-led informal micro finance model called Village Savings and Loans (VSLA). This study therefore, aimed to assess how VSLAs impacts on food security and livelihood strategies of rural communities through a study done in TA Kilipula in Karonga District. The study applied a triangulation mixed study design which engaged 52 sampled VSLA households as, 47 sampled non-VSLA households and 10 purposively sampled VSLA groups. The sampled households were engaged in a household interview while the 10 VLSAs groups were involved in a Focus Group Discussion (FGD) for data collection. Mann-Whitney U test, Chi-Square test and independent t – test were used to analyse quantitatively gathered data for objectives 1 and 2 using SPSS (version 20), while FGD gathered data under objective 3 was analysed thematically. The study results shows that VSLA has a positive impact on food security at household level. All the 5 variables (household food availability and consumption, livestock ownership, crop diversification, household income) for measuring this objective shows significant difference (P=0.01) between VSLA and non-VSLA households. The study also revealed that VSLA has an influence on diverse livelihood strategies and other livelihoods outcomes and hence sustainable livelihoods. Four variables (Human, Physical, Financial, Social and Natural) out of five variables, for measuring VSLA influence on diverse livelihood strategies and other outcomes showed significant differences with only Human capital presenting insignificant differences. Further, the results shows that the VSLA loans and payouts are being used more on investments that are contributing to sustainable livelihoods. The study concludes that VSLAs have a positive impact on food security at household level and a great contribution to sustainable livelihoods of communities in TA Kilipula. The loans and payouts are facilitating investments in livelihoods activities critical for food security, diverse livelihood strategies and other livelihoods outcomes hence sustainable livelihoods. The initiative has also proven to be an instrument towards poverty reduction at community level and therefore worth scaling up. Further, the study recommends further research on the topic by applying other SLA methodologies for a stronger conclusion on the impact of VSLA on food security

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ACRONYMS AND ABREVIATIONS

CADECOM	Catholic Development Commission
CBCO	Community-Based Care for Orphans and Vulnerable Children
COMSIP	Community Savings and Investment Promotion
DFID	Department for International Development
FGD	Focus Group Discussion
GDP	Gross Domestic Product
HH	Household
IHS	Integrated Household Survey
IGA	Income Generating Activities
KA	Karonga
KEEF	Kenya Entrepreneurship Empowerment Foundation
LISAP	Livingstonia Synod AIDS Program
MNSSP	Malawi National Social Support Program
MVAC	Malawi Vulnerability Assessment Committee
NGO	Non-Governmental Organisation
PHC	Population and Housing Census
RCT	Randomised Control Trial
SADC	Southern African Development Community

SEP	Socio-Economic Profile
SG	Savings Group
SLF	Sustainable Livelihood Framework
TA	Traditional Authority
TCD	Transformative Community Development
UBR	Unified Beneficiary Registry
VDC	Village Development Committee
VSLA	Village Savings and Loans Association

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Access to thorough financial services and thus financial inclusion, is considered as a key to economic potential of rural communities especially in the Sub-Saharan Africa where poverty is widespread. It plays an important role in mitigating the effects of poverty by facilitating savings, loans and investments that are critical in the attainment of food security and sustainable livelihoods at community level. (ILO, 2019)

Over the recent years the world has seen a considerable positive transformation in financial inclusion. The number of people globally having an account, which is the most basic level of financial inclusion, grew by 700 million between 2011 and 2014 significantly dropping the unbanked people by 20% (Demirguc-Kunt, et al., 2014). Despite this substantial improvement in financial inclusion generally, a significant percentage of people still do not have access to formal financial services including savings accounts and credit facilities. Global Findex Database of 2014 estimates about 2 billion adult people worldwide as still unbanked.

The Malawian situation is not different either, with access to financial services quiet low with up to 51% of adult population financially excluded (FinMark Trust, 2014). The majority of this financially excluded population live in the rural areas where 85% of the country's population stay, relying mainly on subsistence agriculture as source of livelihood (World Bank, 2016). Agriculture being the foundation of livelihood in Malawi, efforts by various development players are being undertaken to prioritise and improve the sector by among other things increasing productivity. This is however, constrained by lack of access to agricultural financing among other factors, to support acquisition of quality inputs as well as farm labour by most smallholder farmers, consequently leading to food insecurity, low household income and shaky livelihoods in most Malawian households.

To mitigate this, most communities are promoting savings-led informal micro finance model called Village Savings and Loans Associations (VSLAs). This is a traditional community model or approach to financial inclusion where individuals form groups for purposes of saving and loaning money, ideally in groups of between 10 and 25 people (Allen, 2011). The approach is very powerful and unique in the sense that it doesn't require injection of external funds and physical infrastructure to set up and is easily understood and embraced even by the illiterate group members (Helmore, 2009).

For long, many studies have researched broadly the nexus between VSLAs and livelihoods outcomes with most of them showing a positive relationship between the two elements. However, most of these studies do not provide prominent link between VSLA, food security and other livelihoods outcomes that can be described as sustainable. They have mostly concentrated on the impact of VSLA on livelihoods outcomes including food security in general without focusing on the sustainable aspect. Singling out one laudable literature, a study by Msyali (2013) addresses very well the impact that VSLA has on household food security. The only part that it misses out is the aspect of sustainable livelihoods which this study has well addressed by the application of Sustainable Livelihoods Framework (SLF), the main conceptual framework used in this study.

It is apparent in Malawi and Karonga, the study area in particular, that VSLAs have mushroomed a lot such that almost every community boosts of at least a VSLA group. This northern district with a population of 365,028 (PHC, 2018) has its economy dependent on agriculture, fishing, forestry, mining, local commerce and industry, and tourism. (Karonga SEP, 2013). These sectors of economy especially agriculture, are so much driven by the majority rural populations who are unfortunately the main victims of low access to financial services in the district. This status quo prompted many development players including Non-Governmental Organisations (NGOs) with an interest in poverty reduction to come in and promote VSLAs in the district.

Considering this VSLA boom, potentially increasing access to financial services, it was therefore important to assess if they are contributing meaningfully to the much needed food security and sustainable livelihoods and ultimately poverty reduction. This VSLA flourish should be considered as a big opportunity to the country and something that can be leveraged on to help in addressing deep rooted poverty in the communities but only with evidence, which this study aims to achieve.

1.2 Statement of the Problem

Robust access to financial services is a gateway to sustainable food security and livelihoods at both household and community levels. This is mainly being achieved through the savings and loans facility that informal financial institutions are able to provide to the communities. The facility which allows people to invest in agriculture, education, economic activities and other critical areas leads to improvements in food security as well as household income mostly for the low-income rural communities. This as a desired state, has the ability to ultimately facilitate poverty reduction and well-being for the communities.

However, food insecurity and unsustainable livelihoods continue to challenge most Malawians who are already entangled in the poverty cycle, with almost 50.7% of the population leaving below poverty line (IMF, 2017). Majority of the country's population, estimated to be over 85% live in rural areas where agriculture is the mainstay of livelihood (World Bank, 2016). Poor performance of the agriculture sector therefore, would absolutely mean appalling consequences on food security and sustainable livelihoods of communities.

Karonga district's food security and livelihoods, just like many other districts in Malawi, is also mainly at the compassion of agricultural production. Unfortunately, agricultural production is generally characterised by low yield contributed by challenges in accessing agricultural inputs as well as labour in some cases. While the use of fertilizer, pesticides, improved maize seed and other inputs shows an increasing trend over the years in Karonga, the figures (63% of farmers) are still lower than desired (at least 80%) because of the high cost of the inputs (KA SEP, 2013).

Whilst there are many contributing factors, one of the main factors contributing to this, is low access to financial services like credit, savings and payments which are critical elements in the access of agricultural inputs and business capital. This situation cuts across the whole Karonga district, with IHS (2017) reporting only 8.5% as a proportion of households in the district that accessed loans prior to the 2016/17 survey. Further analysis reveals that from this population, 32.7% had borrowed from village banks as opposed to about 14.4 % who borrowed from formal institutions like commercial banks vindicating the communities' limited access to formal financial services.

This situation has prevailed in many households and communities across the area for so long and continues to recur almost every year. Evidently, this is what has brought in informal financial sector to fill that gap for the rural communities including in TA Kilipula. One such informal sector financial initiative is the Village Savings and Loans Association (VSLA) which has gained much ground and popularity in the study impact area in an attempt to improve access to financial services essential for food security, sustainable livelihoods and poverty reduction in general. This study therefore, endeavoured to establish if addressing low access to financial services challenge through VSLA initiative has a positive impact on food security and sustainable livelihoods of communities.

1.3 Objectives of the Study

The overall objective of the study was to assess the impact of VSLAs on food security and livelihood strategies of rural communities in TA Kilipula in Karonga District.

1.3.1 Specific Objectives

Specifically, the study focussed on the following objectives:

1. To evaluate the impact of VSLA on household food security in TA Kilipula in Karonga District;
2. To analyse the livelihoods strategies of VSLA and non VSLA households with respect to diversity; and
3. To determine the main uses of savings pay-outs and loans among VSLA members in relation to sustainable livelihoods.

1.3.2 Research Questions

The key research questions in this study were.

1. What effect do VSLAs have on food security at household level?

2. How do VSLA and non-VSLA households' livelihood strategies compare in terms of diversity at community level?
3. How do VSLAs households use the loans and pay-outs in relation to investments in food security and sustainable livelihoods strategies?

1.4 Significance and Justification of the Study

Poverty levels in Malawi continue to surge especially in the rural areas where the majority are living. According to UNCTAD (2016), the country's poverty levels are high in the rural areas with a headcount ratio of 58% while it stood at about 20% in the urban areas. Such poverty levels are characterised by food insecurity and unsustainable livelihoods thus rendering Malawians, mostly from rural setup, destitute and hence the need to reverse the trend. It is for this reason that Malawi government commits to end poverty through implementation of Sustainable Development Goals (SDGs) with emphasis on SDG number 1. These have been localised through the Malawi Growth and Development Strategy III (MGDSIII) to ensure that the country fulfils its commitment.

VSLAs are considered to play an important role to rural communities in mitigating the impacts of poverty by improving communities' access to the much needed financial services, critical for livelihoods improvements. Therefore, the findings of this study, will redound to the benefits of communities of Karonga district and TA Kilipula area in particular as regards to improvements in their livelihoods. The greater demand for sustainable livelihoods justifies the need for more effective rural development interventions. Thus the development players that will apply recommendations from this study will be able to support the communities better in terms of improving and sustaining their livelihoods.

The study will also suggestively provide an understanding of the broader impacts associated with VSLAs and demonstrate whether indeed VSLAs are an important part of rural development initiative. Thus the findings could provide a basis for government's support towards fully recognising VSLAs as informal but legally accepted financial institutions.

Further, the study will contribute to the improvements in the VSLA domain inorder to maximise their contribution towards sustainable food security and livelihoods at household level. In addition, it is expected to provide an understanding of how the loans and savings can be put to productive use for sustainable livelihoods of the benefiting households and probably facilitate upscaling of the initiative.

Recognising that there are some gaps on how VSLAs contribute specifically to sustainable livelihoods, the study will help to fill such gaps by providing a clear link between VSLAs and food security and sustainable livelihoods. It will also help to expose even more gaps that may be further areas of study for other researchers in the same field.

1.5 Study Limitation

Whilst recognising that the study is very credible, there is however a limitation that the study encountered. There was no baseline data to compare the changes experienced as a result of participating in VSLAs. Instead, the study applied quasi-experimental approach, comparing VSLAs households and non-VSLA households as treatment and control groups respectively to draw conclusions. This approach has its own challenge of not offering any opportunity of random pre-selection process of test subjects. This has a tendency of producing non-equivalent test groups in some cases which can limit the generalizability of the results to a larger population. Despite this limitation, the approach is, nevertheless, a very useful method for measuring variables in social research studies like this one with the inherent weaknesses in the methodology not undermining the validity of the data.

1.6. Ethical Consideration

The research had strictly followed the principles of ethics for a research throughout the process to ensure quality and integrity of the work as well as impartiality. The study was cleared by the Mzuzu University faculty committee which also provided introductory letter to the researcher as evidence of clearance. (See Annex 2) Further, the respondents were all thoroughly briefed of the study and voluntarily participated in the study and consented to being interviewed. The research has also throughout respected the confidentiality and anonymity of the individual respondents, with most of them requesting for the same. In the same vein, enumerators were orientated to handle the interviews professionally in order not to harm the respondents in anyway in the process.

CHAPTER TWO: LITERATURE REVIEW

This chapter delivers a review of relevant literature for the study with the aim of providing an understanding of the research problem being studied. It also presents conceptual framework upon which the study is based, providing a conceptualisation of the study in a broader context.

2.1 Conceptual Framework

2.1.1 Food Security Concept

World Food Summit, 1996 defined food security as a situation that exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life". This definition plugs to four dimensions of food security as food availability, access, utilisation and stability.

Concepts of food security have evolved in the last thirty years to reflect changes in official policy thinking (Clay, 2002; Heidhues etal, 2004). The earlier definitions focused only on basic food stuff availability which lacked some crucial elements like access and nutrition which were considered in the later definitions. Currently, the definition recognises the four dimensions mentioned above as constituting food security and is now the widely accepted notion.

This definition had been adopted for use in this study considering its multidimensional nature and its acceptability widely. The definition itself is very important to this study as it presents dimensions which associates very well with the benefits linked to VSLAs initiative at community level. From the definition, it is very clear that for food security to be achieved, all the four dimensions ought to be fulfilled. It is however a common practice for communities and the district as whole to only fulfil one aspect especially food availability and be contented that they have achieved food security. This is mostly attributed to low household income levels proportionate to the high incidences of poverty at that level which presents a barrier to fulfilment of the other important aspects of food security. Households in this setup may not have the economic access to food, the food utilisation knowledge as well as the stability of the other dimensions over time effectively rendering them food insecure.

Despite this predicament at community level, VSLAs provides a leeway to overcoming this challenge by facilitating access to financial services like savings and loans which are critical in the access of agriculture inputs and business capital. Access to agriculture inputs mostly translates to better crop yield which directly contributes to food availability dimension and indirectly to the other three dimensions of food security. Likewise, access to sound business capital also has a potential of contributing to the realisation of all the four components and hence food security. It is apparent therefore, that VSLAs if well-handled could bridge that gap in food security at community level, providing a conduit to realisation of all the food security components other than availability alone and cushioning the fall back**.**

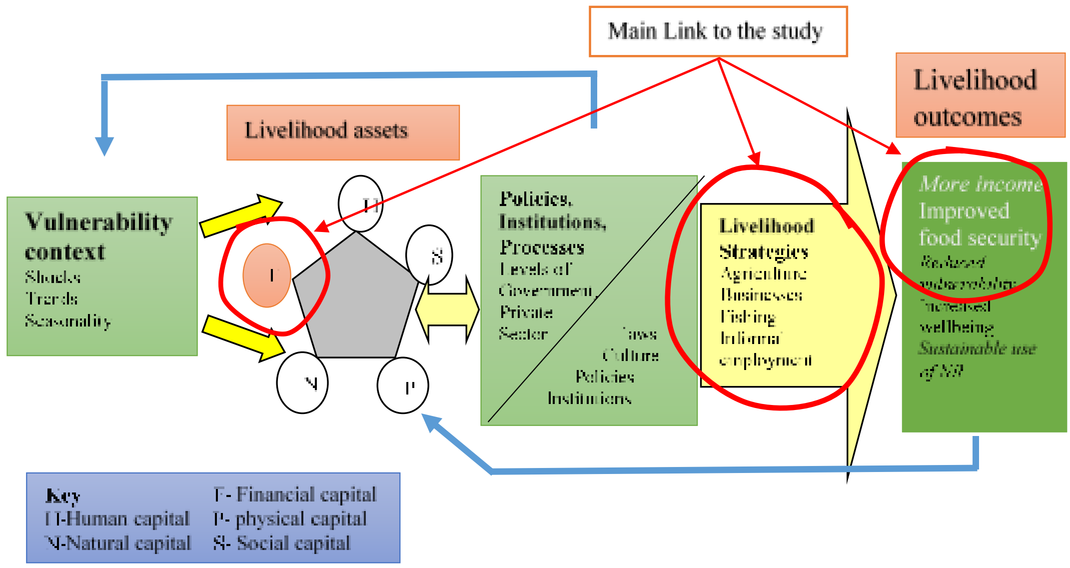
2.1.2 Sustainable Livelihoods Framework (SLF)

Chambers and Conway (1992) defines livelihoods as comprising the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. Further, they argue that a livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term.

The Sustainable Livelihoods Framework which is an analytical tool developed to help understand and analyse the livelihoods particularly of the poor, is the widely used livelihoods framework in the development practice currently in the poverty reduction effort. The framework views all people as living in a vulnerability context where there are trends and like natural disasters that may influence livelihoods decisions. However, they have an opportunity to access some assets or poverty reducing factors like human assets (DFID, 2001). These assets which are referred to as livelihoods assets or capital, are meant to interact with transformation structures and processes like policies and institutions, in order to yield associated livelihoods strategies which are individual's options for pursuing livelihoods goals. Once proper strategies are employed, achievement of positive livelihood outcomes follows as outputs. Such achievements may include higher income, reduced vulnerability, greater food security and greater well-being (DFID, 2001).

The Livelihoods assets as presented by the SLF are categorised into five groups of Human, Natural, Financial, Physical and Social. As already highlighted, with proper transformation structures and processes like good partner support, these assets are very critical in the attainment of positive livelihood outcomes and subsequent sustainable livelihoods. This being the case, they will be very key in this study as they will provide significant variables to lookout for in the study households for determination of any possible VSLA impacts on households. Therefore, SLF presents an ideal conceptual framework for application in this study. Figure 2.1 is presenting a picture summary of DFID SLF

Figure 2.1: DFID's Sustainable Livelihoods Framework - Source DFID, 2001



In TA Kilipula, it is observed that communities are living in a very vulnerable environment where people are mainly at risk of shocks like floods as well as trends in market prices. For example, in 2016/2017 farming season, 12 932 farm families had been affected by flooding which also saw them losing 492 hectares of crops and thus affecting their livelihoods (Karonga Disaster Contingency Plan, 2018). Despite this, the area boosts of abundant livelihoods assets like land, rivers, road infrastructure and good social cohesion among communities which has not been fully exploited. There are also a lot of NGO activities and some good local institution set-up in terms of governance structures which are part of the structures and processes to facilitate livelihood strategies for better livelihoods outcomes ultimately.

The study which focuses on the dimension of access to financial services through VSLA, attempts to see how VSLA initiative can help in reducing shocks and mitigating against the impacts of poor seasons and trends. It also provides a picture of whether the initiative is having a positive influence on livelihoods assets and hence offer an opportunity for full exploitation of the same.

2.2 Impact of Village Savings and Loans Associations (VSLAs) on Food Security

Going through most literature on the impacts of Village Savings and Loans (VSLAs) on food security, study results mostly presents effects which are mostly expressive as opposed to firm evidence on impacts. This is the case because many of these studies do not employ control groups for purposes of comparison but rather relies on respondents' recall system. Nonetheless, these studies are still reporting some perceptible results on the VSLA impacts which are providing useful context and basis for this study. It should be noted that impact is being used in the study to mean potential changes brought about by the VSLA intervention.

The VSLA model which is fast being adopted as a reliable platform for access to financial services at community level, is being suggested as delivering general improvements in food security. Fundamentally there is evidence pointing to VSLA positive contribution to the food security status at household level in various ways. As revealed by Ksoll et al. (2013) through a rigorous impact assessment study of VSLAs in Northern Malawi, food security can significantly improve with VSLA participation. By looking at the increase in number of meals consumed per day at household level, the study found that there was an improvement in food security in the study treatment villages. The results showed that the households in the treatment villages consumed on average 0.13-0.15 more meals per day. These findings are collaborated by Rasmussen (2013) whose study, also using number of meals per day and hunger period, found evidence of VSLAs positive impact on food security. The results bared that VSLAs had influenced an increase in number of meals consumed per day and as well as decrease in the length of hunger period in the participating households. In general terms, increase in number of meals per day suggests improved food security at household level, as adequate food becomes available for consumption. In many communities in Sub- Saharan Africa, reduced number of meals has been applied as a coping mechanism for hunger and food insecurity. Tsegaye et al.

(2018), affirms this contention through their study in Ethiopia where 56% of the food insecure households resorted to decreased meal frequency and portions as their main coping strategy. However, this as one of the simplest coping mechanisms available for households in such situations, has been critiqued as a driver of malnutrition and as such not a recommended strategy especially in households with under-five children and chronically ill people.

Further from the study by Ksoll et al (2013), there is evidence of improved household income through improvements in Income Generating Activities (IGA) as VSLA households held significantly larger savings in VSLAs. Ideally, healthier income at household level translates to food sufficiency as it safeguards purchasing power in terms of accessing agricultural inputs and readily available food. The dimension of access in the definition of food security, mostly relates to better income at household level which has the ability to facilitate food purchases. As noted by Loopstra and Tarasuk (2013) in their study focusing on household food security, income and employment status, greater household income gains leads to improvements in food security. However, it is a known fact that food and inputs price volatility remains a big obstacle to households' access to food even for households with better income levels. This is where governments ought to come in to control such market conditions through better policies and legal frameworks.

These results are well collaborated by findings by Hongo (2013) in a study on Influence of Savings and Loans Associations in Empowering Women towards Household Food Security in Bondo District, Kenya. The findings showed that access to credit from Savings and Loans Associations had enhanced the ability of the majority of the respondents (78.6%), who were all women, to produce more food. Further, the study revealed that 88.6% were boosted to purchase food of higher quality and greater quantities as a result of the Savings and Loans intervention.

This tells us that women can be catalysts for food security if economically empowered especially that they are the anchors of households. Whilst there are many platforms through which women can access financial services for economic empowerment, VSLA seem to be the easiest at community level. This could help explain why more VSLAs dominated by women are mushrooming in the communities.

Another significant aspect of food security is food availability which is an important indicator of food security at household level. This entails that sufficient quantities of food must be available through own production if not at local markets to feed the population. Evidence is pointing out that VSLAs are impacting positively on food availability at household level. In an Impact Assessment of a Livelihoods Program in Central Malawi Anyango et al. (2005) had established that VSLA households had more food than their non-VSLA counterparts, with their food reserves lasting up to 8 months on average as opposed to 5 months for non-VSL households. This is an important dimension as this study also uses this parameter in the assessment of VSLA impact on food security at household level which provides a platform for reference and comparison of findings. However, the only flaw observed in the study was that VSLA interventions targeting women only leaving out the men who are also critical in decisions affecting household food security.

Further to VSLA impact on food security, Ngeba et al. (2016) had equally important observations through their study in Lower Banta Chiefdom, Sierra Leone. Their study on the impact of VSLAs on farm productivity, found that VSLAs impacted positively on farm productivity in various means including access to farm inputs and labour which in turn significantly improved food security at household level. They concluded that farmers experienced VSLA's impacts on farm productivity at different levels which initiated food security within households, indicating that VSLA can contribute not only to household food security, but also to poverty reduction and community development. What is interesting about the study is that it had used a very good methodology of comparing VSLA beneficiary and non-beneficiary households on features of farm productivity and household food security which is similar to the approach taken by this study. This technique is very effective and pragmatic with high internal validity than other designs as it allows for better control of confounding factors.

Msyali (2014), also argues on VSLA positive impacts on food security. The findings of his study on VSLAs impact on food security in Mzimba district in Malawi, suggests that VSLAs improve household food security by increasing household income measured by the ownership of productive household assets. Further evidence of positive impact is being seen through the consumption of more nutritious food by VSLA households as compared to non-VSLA households. The nutrition aspect which is a facet of utilisation dimension of food security, is a very strong indicator of food security at household level. Robust food security at any level has to go beyond just availability and access to include even utilisation.

While many studies are arguing for VSLAs positive impact on food security, some are not supporting this notion and have been to the contrary. For instance, Karlan et al. (2012) in their study in three countries of Malawi, Uganda and Ghana didn’t find general average impacts of VSLA on food security. Although the study found an increase in business activity and positive outcomes such as higher business income, these businesses were more likely not to succeed and therefore also not able to cushion food security deficiency and therefore failed to be directly addressed by VSLAs intervention.

Another interesting study outcome not supporting VSLA positivity on food security is a recent research by Wasambo (2017) which looked at the association between VSLAs and nutritional status and dietary practices of under-five children. This study is also hinging on VSLA and food security nexus bearing in mind that nutrition is a function of food security and that it cannot be attained without achieving food security. Of particular importance about the study in relation to this study, is the location where the study was conducted, Karonga District. It will be so interesting to see how the results of this study compares with the study in question as it also focuses on the same topic and almost similar study aspects, and therefore providing a good foundation for this study.

The findings by Wasambo (2017) did not establish any link between VSLAs and food security as a proxy, since it didn't find any relationship between parental VSLA participation and improved children's nutritional status and infant and young children dietary practices. This is a direct contrast to the findings of a very similar study by Abubakari et al. (2014) also exploring VSLAs and nutrition relationship in the Sissala West District of Upper West Region of Ghana. The result suggested that the institution of VSLAs had resulted in better nutrition and health of children in the beneficiaries' households and thus demonstrating VSLAs positive impact on food security. It will be interesting to see how this study findings compares to these two in relation to food security at household level.

All these are important study findings which are providing a picture of the relationship that exists between VSLAs interventions and food security. However, the results generally still generate further questions about the relationship between the two which this study considers as a gap worth addressing.

2.3 Impact of Village Savings and Loans Associations (VSLAs) on Livelihoods Strategies and Other Livelihoods Outcomes

Whilst realising that livelihoods in general cannot be separated from food security, we still come across studies conducted with special emphasis of VSLA impact on livelihoods. From the literature found, most authors are arguing on the positive influence of VSLAs on sustainable livelihoods than otherwise. Such studies have looked at how VSLAs have impacted on sustainable livelihoods aspects like business and other economic undertakings including IGAs, household asset ownership, access to education and health services and several other aspects.

One such research was done by Anyango et al. (2007) in a study on VSLAs in Zanzibar. The study had found improved standards of living, improved housing and increased incomes as the major changes resulting from the VSLAs participation. These results are collaborated by Ksoll et al. (2013) who looked at the impact of VSLAs in Northern Malawi with almost similar findings noting that VSLAs had improved housing quality, household income and asset accumulation amongst participating households. Quality housing and accumulation of assets are very strong indicators of improvements in livelihoods at household level. These as physical assets, are an important aspect of livelihoods as they facilitate household resilience to any stresses and shocks and hence sustainable livelihoods. While these two cited research findings demonstrate positive effects of VSLAs, the authors acknowledged the intervention period as being too short to capture more evidence on the positives from the VSLA interventions. This is an important feature to note as it already identifies a gap worth addressing by this study.

Solange and Mulyungi. (2018), also supports findings on VSLA’s positive impact on sustainable livelihoods through their study on Contribution of VSLAs on Building Sustainable Rural Livelihood in Rwanda. Their findings reveal that VSLAs are playing an important role in enhancing rural household welfare, manifested by; improvement of household income, supporting household asset accumulation and supporting the development and diversification of IGAs by households. These results are similar to what Odokonyero (2012) found in a study on Informal Savings Schemes and Household Welfare in Northern Uganda. Both study findings are very much emphasising mainly on financial and human capital building. These two capitals are very critical assets of livelihoods as they are major factors in asset building and livelihoods diversification which are important elements of livelihoods at community level. In many communities, they have contributed to the overall development of people and facilitated livelihoods improvement at large.

Asset accumulation and access constitutes an important livelihoods pivot in the communities as it determines household's economic activities in a given context. Assets such as land and livestock have a high economic value in as far as livelihoods is concerned as they can be used in a number of productive activities and ultimately positively impacting on household's income. Beck (2013) suggests that VSLs have a substantial positive impact on income and livelihoods in general as they influence accumulation of valuable and productive assets that include livestock, land and even agricultural inputs. Further, he argues that there is also considerable investments in housing improvements by VSLA households, ofcourse with anecdotal evidence suggesting that Savings Groups participation enabled these investments.

Mochoge (2016) seem to agree with Beck's findings, pointing out increased prospect of improvements in the livelihood outcomes of VSLA households. He debates that VSLA groups have a significant effect on the livelihoods of households' who through access to loans are able to build permanent houses, buying land, medical expenses, paying school fees and even purchase of motor vehicles. It is evident that household's low asset position limits its ability to take advantage of existing opportunities for livelihoods improvement .As such, investments in the aforementioned assets is very critical in the effort to achieve sustainable livelihoods and well-being of rural communities. In some cases accretion of some of these important assets can easily be facilitated by Income Generating Income (IGAs) that households can venture in. These too have been known to be aided by VSLAs especially in the rural communities where participants invest a greater proportion of their loans into this economic activity (Adams etal, 2013). IGAs form an important facet of livelihoods at both household and community level as they facilitate access to additional revenues which are a means of consolidating vibrant livelihoods.

Access to essential social services like health and education and of course realisation of the social capital in general, are also considered as key features to sustainable livelihoods at community level. While VSLAs have mostly been considered as helping participating households in mainly attaining economic independence, they are also critical in facilitating positive social impacts. Social relations and institutions are an important livelihoods aspect at community level which cannot be shelved if sustainable livelihood is to be attained. A study by Valley Research Group & Mayoux (2008) had one of its findings focusing on augmentations in the community social dynamics through informal village banks. Apart from other traditional Savings Groups (SGs) engagements, SGs involved in this study also embarked on social efforts to minimise harmful social practices, such as child marriage and labour, and the trafficking and defilement. One community as a result, had registered for example a change in the average age of marriage for girls from 13 to 16. Women also reported to have increased decision-making power in the household which is an important social element in the women empowerment drive.

Assefie (2014) concurs with these findings through an Exploratory Study of the Village Saving and Loan Groups' Contribution to Women's Empowerment in Ethiopia. The study found that VSLA had helped women improve their decision-making power in all aspects at both household and community level. Not only that, the study also reveals other social impacts like increase in social interaction, enhanced self-confidence and hope for a better future in the participants as a result of participating in VSLA. These social aspects emanating from Savings Groups are such an important element which can have a huge affirmative bearing on the sustainability of livelihoods at community level.

VSLAs have also been known to facilitate acquisition of human capital mostly by supporting access to education and health services which are most important aspects of human capital. Children from households participating in VSLAs have been able to easily access education and health services resulting in robust human capital for households (Kesanta and Andre, 2015). The households are able to easily pay for school fees and other school requirements for their children as well as afford health expenses for the household. A study by Gash et al. (2013) also supports these assertions where 90% of VSLA participants reported their children being "better off" in terms of understanding issues than before joining VSLAs crediting education as the reason for the improvement at the project end line. This was also true for the health element with 79% of all respondents at endline reporting using loans for health expenses that eventually improved health status critical for sustaining human capital.

Brannen (2010) had slightly different conclusions in his VSLA study in Zanzibar. He observed VSLA positive impact on various indicators at household level such as asset expenditure levels, quality of housing and development of IGAs. VSLA also showed an influence on access to health services and nutritional levels with the vast majority (80 percent) believing that health of the members of their households had improved after joining the VSLA program. However, the findings concluded that there was very marginal VSLA impact on quality of education.

BARA and IPA (2013) on the other hand, had completely contrary results, finding no Savings Group impact on education and health. The study which had used Randomised Control Trial (RTC) study design, had not find significant differences between Savings Group treatment and control villages on these social indicators. There were no significant measurable changes observed on health expenses, school enrolment and other livelihoods elements between the non-savings and savings groups. This is well corroborated by Larson et al. (2013) who did a study on Savings and Loan Associations with a focus on Community-Based Care for Orphans and Vulnerable Children (CBCO). The study also did not find any educational outcome differences existing among the three groups of households, those with program participants, those without program participants but in the same program villages, and those in nearby villages where the program did not operate at all. These disparities in the findings and other conclusions on VSLA impact on livelihoods is what this study would like to establish or confirm.

2.4 Utilisation of VSLAs Share-Outs and Loans

Village Savings and Loans Associations (VSLAs) as the name suggests, presents an opportunity to its members to access money through Loans or borrowing as well as end of cycle share-outs. The VSLAs normally run in cycles of a year during which the members save and borrow money with profits and savings being shared at the end according to what each member has saved. (Allen, 2011)

The Loans and share-out’s can be used for various livelihoods strategies by the communities or households in their quest to achieve a well-being. In general practice, loans from the Savings Groups (SGs) are more frequently used for productive purposes with an investment return thereafter as compared to share-outs. This suggests that access of loans has a potential to contribute to sustainable livelihoods of VSLA participants more than the share-outs. This could probably be because loans are obtained continuously throughout the year unlike share outs which are once at the end of the year and mostly coinciding with many household commitments.

Findings of a study by Beck (2013) supports this assertion through his study on Impact of Accumulating Savings and Credit Associations on Child Well-being in Mozambique. The study found that 77% of loans were being used for business inputs and 9% for agricultural expenses unlike the share-outs usage where business and agriculture jointly accounted for only 23%. BARA and IPA (2013) through an impact evaluation on Savings for change program in Mali seem to agree with this as well. In their study, business investments accounted for only 23% of the share-outs at the end of the year with 42% of the loans invested on the same. BARA and IPA (2010) also finds that the most common uses of loan funds were business investments through IGAs and purchase of agricultural inputs. This trend where more productive investments are emanating from the VSLAs, can be good for communities and households as the investment return potential in these investments can contribute to sustainable livelihoods.

Share-outs in comparison with loans, have a better likelihood to realise a huge and impactful investments if well utilised since they provide large amounts at once than the loans. Whilst a lot of literature is indicating that most share-outs are not capitalised in productive investments like agriculture and businesses than loans, some are still reporting to the contrary. Saka and

Musonda (2016) in their analysis on the use of VSLAs pay-outs, finds the majority of respondents (60%) using it for purchase of farming inputs. This is seen as a critical agricultural investment for most rural communities, agriculture being the mainstay of their livelihoods. Some studies are however, reporting on almost similar pattern of usage of the loans and share-outs where both windows are predominantly put into productive investments. Adams et al. (2013) found that the majority of VSLA members (62%) invested the greater proportion of share-outs into businesses. Statistics from the loan utilisation were not very different from the share-outs utilisation with also the majority of the respondents (74.2%) spending a greater percentage of the loans obtained into businesses as well.

Karlan et al. (2012), however, brings another dimension in the use of loans only where he presents almost equal investments on both productive and social spheres. Their study found that participants invested 38% of the loans productively (agriculture and businesses) whilst also spending 38% of the loans on social aspects (education, health, food). On the other hand, share-outs presents a different picture altogether in this study with productive investments (28%) trailing social expenditures at 41%

Whilst economic investments are an important facet of livelihoods, social aspects are also critical in the attainment of sustainable livelihoods. Unlike in most literature, Kesanta and Andre (2015) presents a different picture of loan utilisation which is mostly on social aspects as opposed to economic investments. In their study, they found that the majority of the participants were using loan funds for paying school fees, house improvement, health expenses, family events and purchase of food which jointly constituted 58%. Despite being important livelihoods expenditures, these social orientated investments wouldn’t provide economic returns very easily and soon than productive investments. However, they provide a platform for achievement of a sound environment necessary for economic independence at community or household level.

Saka and Musonda (2016) also demonstrates how VSLA participants use part of the pay-outs on social investments, though not as the mainstream usage. The study revealed that 40% is invested socially with 20% of the participants indicating using it on celebration/house project while another 20% were putting it to food and school fees. Adams et al (2013) collaborates with the social usage of both loans and share-outs clearly underscoring how important those aspects are to the communities. Their study revealed that despite a big proportion of both loans and savings going into economic activities, communities also considered social expenditures from the same. The study found that 18.2% of loans was spent on school fees, family upkeep and funerals with 24% of the savings being spent on almost the same social aspects.

All things considered, the review of this literature is presenting a picture that impact of Village Savings and Loans is a topic that has been thoroughly studied. However, further in-depth study will lead to better understanding of its impacts at community and household level. Specifically, VSLA impacts on food security and sustainable livelihoods should be studied in order to learn what may be the very best of approaches and strategies to development programming and ultimately lead to poverty reduction at community level. Therefore, this research will attempt to address that.

CHAPTER THREE: MATERIALS AND METHODS

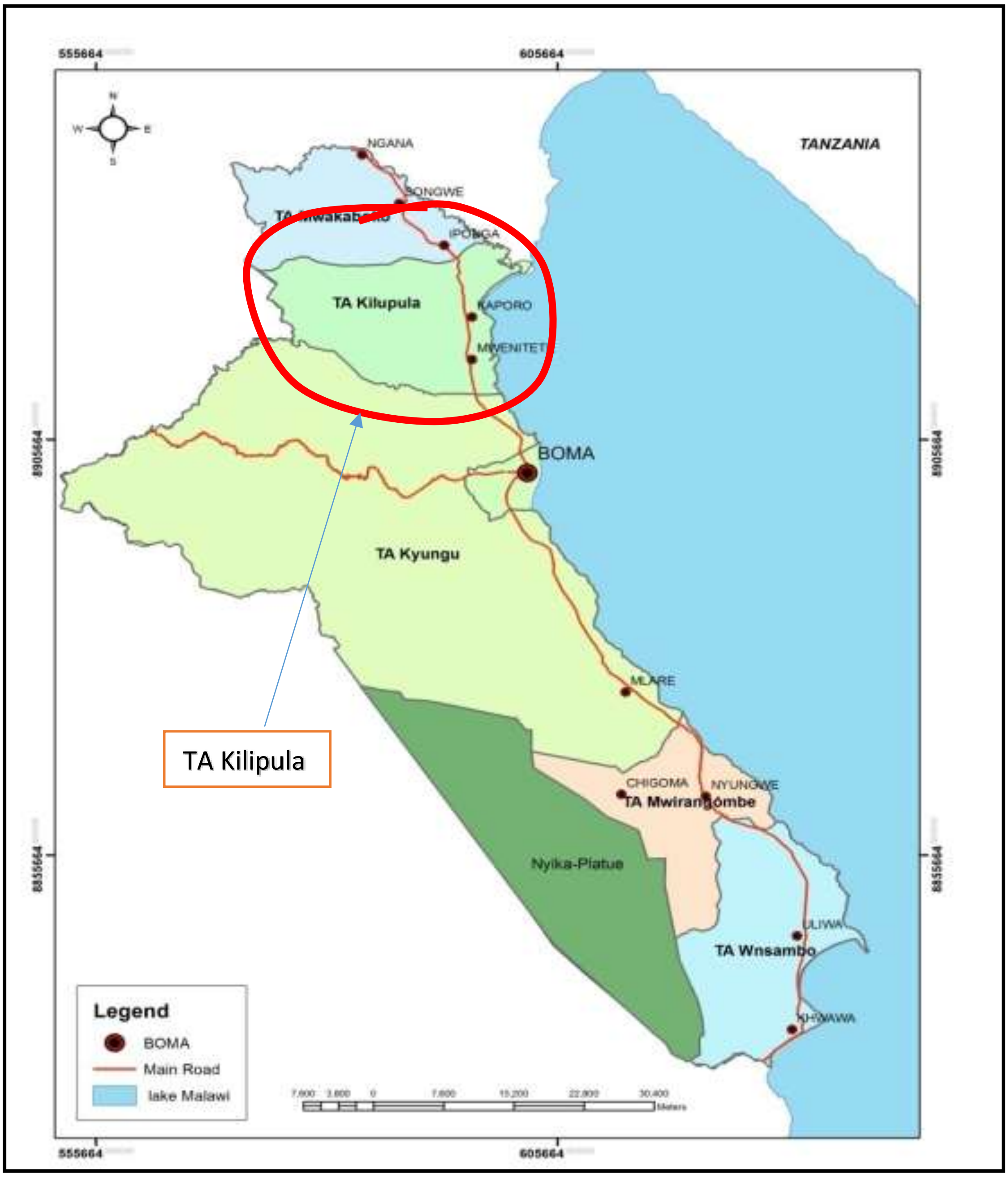
Chapter 3 provides description of materials and methods used in the study. It highlights comprehensively how critical data was collected, analysed and interpreted in order to realise the research objectives. Specifically, it presents where the study was undertaken, the design approach, the sampling technique and size used as well as data collection and analysis strategies employed.

3.1 Study Area

The study was conducted in the area of Traditional Authority (TA) Kilipula in Karonga District. The district has five traditional Authorities with a population of 365,028 (PHC,2018). The Traditional Area is divided into 14 Village Development Committees (VDCs) with an estimated population of about 82,629 whose main livelihood is agriculture (Karonga SEP, 2013). The local people also have a high dependency on fishing and small-scale enterprises apart from engaging themselves in agriculture for their livelihood.

This area was chosen for the study considering that it has a lot of VSLA supported interventions by development partners as compared to other areas in the district. Partners like COMSIP Union, LISAP, Evangelical Association of Malawi, Feed the Children, CADECOM, World Vision etc. have been promoting and supporting VSLAs activities in this area for the past 10 years. Further, most pilot activities on financial inclusion like VSLA have been starting from this area before rolling out to other areas (Karonga SEP, 2013). This is suggesting that the people in the area have an opportunity of more access to financial services than those in other areas. However, the area continues to experience food insecurity and also presenting signs of high incidences of poverty as demonstrated by the type of income source poor households depend on. For poorer households, ganyu is the main income source, accounting for more than 40 percent of annual income (MVAC, 2015). The study was sanctioned in this area therefore as a way of understanding the nexus between financial inclusion on one hand and livelihoods security and poverty in general on the other hand.

Figure 3.1: Map of Karonga depicting the boma and other trading centres including those in TA Kilipula – sourced from KA, SEP



3.2 Study Design

This research adopted a mixed research design with the quantitative aspect embracing a quasi-experimental research approach. This was the case as the study involved two naturally formed groups without any random pre-selection processes, of VSLA members and non-VSLA members. In this case. For the qualitative part, Focus Group Discussion was employed to help explain the observations in the quantitative part. The design was chosen as there is no baseline data to provide comparative platform for the situation before and after VSL intervention. This design therefore offers an alternative to assessment of two different situations without baseline information.

In order to assess the perceptible impact of the VSLAs in the study, only beneficiaries who participated in the VSLAs activities for at least two years were targeted. Such participants were expected to have invested the benefits from the VSLA initiatives in some food security and livelihood strategies.

3.3 Sampling and Sample Size

Sampling is necessary because it is usually impractical to obtain data from the whole population due to lack of resources and limited time. This research employed both cluster and simple random sampling, probability sampling techniques, for sampling respondents with respect to objectives one and two of the study. Probability samples aim to achieve representativeness, which is the degree to which the sample accurately represents the entire population (Teddlie and Yu, 2007). Further, probability sampling minimises biasness in the sample as all cases have equal chance of being selected.

In late 2018 there were about 238 known VSLA groups in TA Kilipula of which 6 were active and had been in operation for at least 2 years (Karonga Community Development Office, 2018). These 60 groups comprised members with the required period of 2 years and above participation in VSLAs. Each VSLA group had an average of 20 members and therefore estimated number of members from the 60 groups was 1,200 translating to 1,200 households or cases that were eligible for interviews.

Yamane (1967) formula for estimating sample size as provided in equation 1 was used to calculate the sample size. The formula assumes a 95% confidence level and sample proportion of 0.5

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

Where, n = the sample size, N = the size of population, e = sampling error.

By using this sample size formula with an error margin of 13% and confidence coefficient of 95% a sample size of 56 was obtained for the treatment group. For the control group, the study had also drawn a sample size similar to the treatment sample. This implies that 56 VSLA households and 56 non-VSLA households were sampled for interviews giving a total of 112 households as sample size for the study. The targeted person as a respondent from the sampled households, was the household head or a knowledgeable member of the household.

The study also involved data collection through FGD from 10 VSL groups out of the 60 active groups to gather data for objective number 3. These groups were sampled using purposive sampling method. The reason for sampling purposively was that the study wanted only to pick performing VSLA groups which represents an ideal situation of what VSLA groups should be like. Further, this was to ensure that the sample had atleast 2 groups that have been in existence for each of the two years, three years and four years categories.

To ensure that sampled households were generally of the same socio-economic status and countering the adverse effects of the quasi-experimental study design, a Unified Beneficiary Registry (UBR) was used to isolate appropriate households for the study. The eligible households were picked from the poor category based on the UBR poverty classification which collapsed poor and poorer households. This category is the group targeted with protection and promotion interventions like VSLA initiative under the Malawi National Social Support Program II (MNSSP). Picking households outside this category could have resulted in much un-equivalent test groups with a potential of negatively affecting the results owing to different socio-economic status of the households. Some households could have been either too poor or better off and therefore outliers, to present the ideal impacts that VSLA can have on an ideal household.

3.4 Data Collection

To evaluate impact of VSLA on household food security (objective 1), data was collected on a number of variables through household interviews guided by a structured questionnaire. The following variables[1] with their corresponding parameters[2] were considered:

- Household food availability *(Number of months with food after harvesting, available food in Kgs, Annual food production in Kgs)*,
- Household meal consumption *(Number of meals per day, managing 6 food groups)*,

[1] In this study, variables refers to attributes or objects which are being used to measure and understand the objectives and get to the bottom of them

[2] Parameter is being referred to as a sub-variable in this study

- Livestock ownership *(number of livestock owned)*,
- Crop diversification *(Number of food and cash crops grown)*,
- Household income *(household per capita income, household expenditure on critical items)*.

Specifically, on livestock ownership variable, the focus was on cattle, goats, pigs and chicken as parameters which are the most common and critical livestock at household level in the study area.

For the second objective, data collected was based on the five livelihoods assets/capital as provided in the DFID's Sustainable Livelihoods Framework (SLF). These livelihoods assets/ capital which were treated as the variables for this objective are: Human capital, Physical Capital, Financial Capital, Social Capital and Natural Capital. Each of the variables had specific parameters on which data was collected as follows:

- *Human Capital*: Education levels for both household head and spouse, Number of children at school, Number of household members chronically ill and Number of trainings attended on household livelihoods improvement aspects
- *Physical Capital*: Ownership of permanent house, Transport facilities as well as Agricultural implements
- *Financial Capital*: Household savings levels and access to loans/credit. This variable is where we have the VSLA coming in as an entry point in the SLF
- *Social Capital*: Participation in community governance as well as social activities, Household worth ranking status in the context of that respective community and Household levels of acceptance in the community
- *Natural Capital*: Size of land owned, Household woodlot ownership, Household access and management rights to community woodlot and natural resources

SLF emphasises that these assets are essential elements for the pursuit of positive and diverse livelihood strategies and outcomes as they enhance household resilience by minimising vulnerability. This data was also collected using household interview approach.

Further, data on this objective was also collected on number of livelihood strategies, to understand diversity of the livelihood strategies relied upon between the two households.

The third objective involved the use of Focus Group Discussions (FGD), guided by an interview guide, involving members taken from 10 separate VSLA groups divided into 3 groups. The 3 FGD groups were categorised according to years their groups have been in existence, with 1st group having 2 years VSLA group members, 2nd group with 3 year groups and finally 3rd group having 4 year group members.

Data collection for this objective focused on capturing the usage of money from VSLA loans and pay-outs, in order to ascertain and understand the main uses of such money on the part of the VSLA participants. In addition, the process also captured data on the main businesses that VSLA participants are engaged in, perceived VSLA impacts as well as challenges they face. This data was vital in terms of understanding if VSLA funds were invested in diverse livelihood strategies which can contribute to food security and other positive livelihood outcomes. Therefore, this data helped the researcher to triangulate with the results under the 2nd objective

Further, the study also captured diverse household demographic characteristics during the household interviews. Some of the critical demographic data for this study were on age of the respondent, sex, education, occupation/livelihoods and years that the household has been participating in the VSLA activities.

3.5 Data Analysis

Data for objective one and two were analysed using SPSS version 20 mostly in examining the differences between the two independent samples of VSLA and non-VSLA. Variables measuring these objectives in respect to food security and sustainable livelihoods were key in determining whether VSLAs have an effect or not on food security and sustainable livelihoods.

Specifically, on objective 1, the study compared the situation in the two household categories on household food availability, meal frequency, crop diversity, livestock ownership and household income variables using critical parameters also highlighted under data collection section. Data on variables of household food avaibility, livestock ownership, crop diversification and household income for household per capita income parameter, were all continuous and not normally distributed and hence non-parametric. This being the case, Mann-Whitney U test was applied to test if the two groups were the same or different with respect to the variables in question.

On the other hand, data on meal frequency variable and expenditure on critical areas of education, health, food and agricultural investments under household income variable was categorical. Therefore, cross tabulation analysis was used with Chi-Square test being applied at 0.05 level of significance. The outcome of these statistical tests helped in establishing significant differences and relationships between the two groups with respect to food security and ultimately facilitated decision on whether VSLAs have an impact on household food security or not.

It should be noted that, analysis of data for livestock ownership variable was based on the total number of livestock owned at household level with respect to the four livestock categories of cattle, goats, pigs and chickens that this study picked. Similarly, for crop diversification variable, total number of food and cash crops was used in the analysis. For household income variable analysis on parameter of expenditure on critical areas of education, health services, agricultural investments and food, average expenditures at household level were used.

Data for objective 2 was also analysed by examining the differences and relationships between the two household categories in terms of livelihoods assets (capital) possessed with Chi-square and Mann-Whitney U tests being applied. These assets based on the DFID's Sustainable Livelihoods Framework (SLF) are Human, Physical, Financial, Social and Natural which were the variables for this objective. The analysis of assets/capital on their possession levels perspective between the two household categories with a focus on the sustainable livelihoods, was derived from the SLF's assertion and principle that these five livelihood assets facilitate achievement of positive and sustainable livelihood outcomes. Further, SLF argues that people require a range of livelihood assets to generate the many and varied livelihood outcomes that are needed for sustainable livelihoods.

Specifically, data on parameters of education levels of household head and spouse under human capital variable as well as data for all parameters under physical capital, financial capital and Social capital variables were categorical. Further under natural capital, some parameters of household woodlot ownership, household access and management rights to community woodlot and natural resources also assumed categorical characteristics. As such, Chi-square test was used in the analysis.

In contrast, data on parameters of number of children at school, number of household members chronically ill and number of trainings attended on household livelihoods improvement under human capital variable was ordinal and non-parametric. Similarly, data on size of land owned by households under natural capital variable was also ordinal and assumed non-parametric characteristics since it was not normally distributed. This being the case, data for these variables specific to the parameters mentioned was analysed using Mann-Whitney U test.

Analysis of livelihoods strategies applied independent t- test as it aimed at comparing means of the two independent household categories.

Further, there was involvement of descriptive statistics on the analysis of data on main livelihoods of people in the study area. This analysis was done to understand the livelihood activities the people are involved in. This was necessary as it provided the foundation for which livelihoods analysis with respect to sustainability under objective number 2 was based.

The third objective involved analysis of FGD gathered data to determine the main uses of money from loans and share-outs, main business ventures and challenges being faced by the VSLA. This simply involved transcribing the responses given by the participants, coding and categorising the responses into themes and isolating the themes. These isolated themes were then analysed, developing a report on popular opinions guided by frequency, extensiveness, intensity, specificity and consistency of comments made by participants.

This qualitative analysis helped in providing a picture of the VSLA participant's loans and share-outs money usage, the main businesses they engage in and challenges they face. The main business ventures were analysed in order to help provide an understanding and picture of businesses the VSLA households are undertaking in relation to diverse livelihoods strategies and ultimately sustainable livelihood outcomes. This was to help in the determination of whether VSLAs are facilitating sustainable livelihoods or not and therefore assist in the triangulation of findings under objective 1 and 2.

CHAPTER FOUR: RESULTS

This chapter presents findings of the study in line with the three objectives of the study which include; evaluating the impact of VSLA on household food security; analysing the main livelihoods of VSLA and non VSLA households with respect to sustainability; and determining the main uses of savings pay-outs and loans among VSLA members.

4.1 Impact of VSLA on Household Food Security

The associated research question for this objective was "*What impact does VSLAs have on food security at household level?*" In measuring this objective, five variables were used as follows; household food availability, household meal consumption, Livestock ownership, crop diversification and household income

4.1.1 Household Food Availability

Three parameters were considered in determining household food availability and they included; number of months with staple food after harvesting, staple food available in the household in kilograms and average food crop harvested (yield) in the last 2 growing seasons by the household. Mann-Whitney U test on all household food availability parameters show that household food availability is significantly different between VSLA and non VSLA households ($P = 0.01$). Table 4.1 shows that VSLA households have more months with staple food, have more kilograms of available food and have high average food crop harvested in the last 2 growing seasons. Therefore, VSLA can be said to have a positive impact on household food availability.

Table 4. 1: VSLA and Non-VSLA households' comparison with respect to three Food availability parameters

Household category	Months with staple food after harvesting	Staple food available in Kgs	Average food crop harvested (Kg) in the last 2 growing seasons	P-Value
VSLA HH (n =52)	7.42	152.67	451.96	0.01
Non-VSLA HH (n=47)	3	25	133.78	0.01

4.1.2 Household Meal Consumption

There were two parameters which were involved in the measurement of this variable. These focused on number of meals managed per day in the previous growing season (12 months) and number of food groups managed by the household for the past 3 months preceding the survey. Table 4.2 with a summary of the analysis results shows significant difference ($\chi 2 = 48.435$; df = 4; p=0.01) between VSLA and non VSLA HH in managing three meals per day. From the table, most of Non-VSLA households (59.6%) were unable to manage 3 meals per day at any point of the year as opposed to only 1.9% of the VSLA households. It is also observed that 25% of the VSLA households were able to manage at least 3 meals a day throughout the year while no any household (0%) under the Non-VSLA household category managed the same in the said period of the year. The analysis further shows that the best that non-VSLA households achieved in terms of managing 3 meals per day was up to six months after harvesting where only 4.3% were capable as opposed to 21.2% for VSLA households.

Table 4. 2: Cross tabulation of household category and ability to manage eating 3 meals per day for the past 12 months showing frequency and percentages

HH Catehory	Not managing	Up to 3 months after harvesting	Up to 6 months after harvesting	Up to 9 months after harvesting	Through-out the year	P-value
VSLA HH (n = 52)	1 1.9%	24 46.2%	11 21.2%	3 5.8%	13 25.0%	0.01
Non-VSLA HH (n = 47)	28 59.6%	17 36.2%	2 4.3%	0 0.0%	0 0.0%	0.01

On households' ability to manage 6 food groups, the results in table 4.3 shows that the majority of Non-VSLA households were in the categories of managing 1-2 and 3-4 food groups with statistics of 25.5% and 74.5% respectively. On the contrary, the majority of the VSLA households were able to manage 3-4 food groups as well as 5-6 food groups. It should be highlighted that while 51.9% of VSLA households managed at least 5-6 food groups, no any Non-VSLA household (0%) was able to manage that. Chi-square statistic proved these differences to be statistically significant ($\chi2=38.2$; df=2; p=0.01)

Table 4. 3: Cross tabulation of household category and ability to manage eating 6 food groups for the past 3 months showing frequency and percentages

HH category	Managing 1-2 Food groups	Managing 3-4 Food groups	Managing 5-6 Food groups	P-Value
VSL household (n=52)	1 1.9%	2 46.2%	27 51.9%	0.01
Non-VSL Household (n=47)	12 25.5%	35 74.50	0 0.0%	0.01

From the analyses on the two parameters, a conclusion can therefore be drawn that VSLA has a positive impact of household (HH) meal consumption

4.1.3 Livestock Ownership

On livestock ownership, examination of the two household groups revealed that VSLA households owned an average of 13 livestock (consolidated as cattle, goats, pigs and chicken) while Non-VSLA had an average of 2 (Table 4.4). Using Mann-Whitney U test to investigate significance of this difference, the results showed that the difference was statistically significant at p=0.00. Therefore, it is concluded that VSLAs have a positive impact on livestock ownership at household level.

Table 4. 4: Number of livestock and average number owned on the overall

Household Category	No. of cattle owned	No. of goats owned	No. of chickens owned	Number of pigs owned	Average livestock ownership per HH
VSLA (n=52)	98	62	434	79	13
Non-VSLA (n=47)	10	7	56	22	2

4.1.4 Crop Diversification

Mann-Whitney U test revealed that the distribution of the total crops grown across the household categories is not the same. There is a significant difference (P = 0.00) between the mean number of crops grown by VSLA households (3) and Non-VSLA households (2) as presented in table 4.5. It is therefore flawless that VSLA has a positive influence on crop diversification practices at household level.

Table 4. 5: Mean number of crops grown

Household category	Mean number of food crops grown	Mean number of cash crops grown	Mean number of crops grown
VSLA households (n=52)	2.29	0.80	3.09
Non VSLA households (n=47)	1.34	0.68	2.02

4.1.5 Household Income

Examination of household per capita income parameter shows that average per capita income for VSLA household is K88, 306 whilst that for non-VSLA household is K20, 653. Mann-Whitney U test shows that this difference is statistically significant (P=0.00).

In terms of analysing data on expenditure on critical areas of education, health services, agricultural investments and food, cross tabulation and subsequently Chi-Square statistical test were used in analysing the variable. The cross tabulation results as presented in table 4.6 show that majority of the VSLA households tended to spend more on the critical areas than the non VSLA households. For example, on expenditures above K100 000, only VSLA households (100%) reached this threshold with no any non-VSLA household (0%) managing that. Further on the lowest expenditure category (up to K10,000) it is observed that 90.9% of the households were non-VSLA with VSLA households accounting only for 9.1%. The only category where the statistics of the two household groups seem to have a marginal difference is the average spending level between K30,001 and K60,000 where VSLA registered 51.6% with non-VSLA closely at 48.4%. Chi-square test proved that these differences in average expenditure on critical areas at household level are significant ($\chi 2$ = 39.774, df = 4, p =0.00). From the household income variable analysis therefore, it can be concluded that VSLA has a positive impact

Table 4. 6: Cross tabulation of household category and average expenditures on education, health, agriculture and food showing frequency and percentages

Expenditure category	VSL household (n=52)	Non-VSL Household (n=47)	P-Value
Average expenditure of up to K10,001	1 9.10%	10 90.90%	0
Average expenditure of K10,001 - K30,001	0 0.00%	14 100.00%	0
Average expenditure of K30,001 - K60,001	16 51.60%	15 48.40%	0
Average expenditure of K60,001 - K100,001	26 76.50%	8 23.50%	0
Average expenditure of above K100,001	9 100.00%	0 0.00%	0

As expected, in the analysis of all the five variables for measuring impact of VSLA on food security at household level, VSLA has statistically been proven to have a positive impact. This being the case, we can in the absolute sense conclude that VSLAs improves food security at household level effectively answering the research question under this objective. Further, the analysis has also shown that VSLA improves household income since there has been significant difference in the household income variable.

4.2 Analysis of Main Livelihoods With Respect To Diversity and Sustainability

This objective's associated research question was *"How do VSLA and non-VSLA households' livelihoods strategies compare in terms of diversity at community level?"*

4.2.1 Main Livelihoods of People in TA Kilipula

This livelihoods analysis provides a foundation under which objective 2 was analysed since it presents the main livelihoods of people in the area which was subjected to sustainability check. It looked at both folds of VSLA and Non-VSLA households' livelihoods since this is the main demographic characteristic upon which this whole study is based.

From Table 4.7, it is observed that communities in TA Kilipula area are mostly relying on four main livelihood activities. As expected, 71% depend on farming which ranges from livestock to crops like rice and cassava. It is also observed that 13% of the households bank on small scale business, 8% rely on fishing while 6% are into piece works. There are also some who have their main livelihoods in other sources which accounts for 2%.

Table 4. 7: Main Livelihoods in TA Kilipula

Livelihood	Frequency (n = 99)	Percent
Farming	70	70.7
Fishing	8	8.1
Small scale business	13	13.1
Piece work	6	6.1
Other	2	2
Total	99	100

Further analysis of data disaggregated by household category, some disparities are seen in the livelihoods that communities rely on. From the table 4.8, farming still remains the main livelihood that both categories of households rely on with 75% of VSLA households' dependant on it as opposed to 68% in non-VSLAs. The biggest disparity between the two households is observed on piece work livelihood where 13% of non-VSLA households depends on it with no any VSLA household relying on it for livelihood. This may suggest that VSLA HH have better and reliable livelihoods strategies than piece works which are considered unreliable and unpredictable. It is also observed that more VSLA households (19%) are relying on small scale business as opposed to non-VSLA where only 6% are dependent on it.

Karonga being a lakeshore district, as expected, some households depend on fishing as their main livelihood. Non-VSLA households dominated the VSLA households in terms of reliance on fishing with 11% non-VSLA depending on it as opposed to only 4% of the VSLA households

Table 4. 8: Main livelihoods by household category

Livelihood	VSLA HH (n=52)		Non VSLA HH (n=47)	
	Frequency	Percent	Frequency	Percent
Farming	39	75	32	68.1
Fishing	2	3.8	5	10.6
Small scale business	10	19.2	3	6.4
Piece Work	0	0	6	12.8
Other	1	1.9	1	2.1
Total	52	100	47	100

These four main livelihood activities for the area were subjected to sustainability analysis with respect to the five livelihoods assets (capital) of human, physical, financial, social and natural which are also variables for the second objective.

4.2.2 Human Capital

This variable was measured by five parameters to examine if there is any difference in average human capital (asset) possessed or acquired by the two categories of households. These were education levels for both household head and spouse, Number of children at school, Number of household members chronically ill and number of trainings attended on household livelihoods improvement aspects.

Interms of education levels for both household head and spouse, the cross tabulation results (table 4.9) show that 64.5% of household heads and 64.7% of spouses in the VSLA households reached secondary school level of education as opposed to 35.5% and 35.3% respectively in the Non-VSLA households. On Primary education, it was observed that 47.5% of household heads and 53.6% of spouses in the VSLA households ever attended primary school while 52.5% and 46.4% of household heads and spouses respectively in the Non-VSLA had a glimpse. Coincidentally, for those who had no any formal education at all, the difference in the education levels of household heads and spouses is the same at 42.9% and 57.1% for VSLA households and Non-VSLA households respectively.

Chi-Square test, shows that differences in the education levels of household head with respect to VSLA and non VSLA household status is not statistically significant ($\chi^2 = 2.658$, df = 2, p = 0.265). Similarly, there was no significant difference in the education levels of spouses ($\chi^2 = 1.11$, df = 2, p = 0.574). This therefore establishes no differences in education levels of household heads and spouses in the VSLA and Non-VSLA households.

Table 4. 9: Cross tabulation of household category and education levels distribution for household head and spouse showing frequency and percentages

Parameter	Education level	VSL household (n=52)	Non-VSL Household (n=47)	P-Value
Education level of household head	No Education	3 42.90%	4 57.10%	0.265
	Primary Education	29 47.50%	32 52.50%	0.265
	Secondary education	20 64.50%	11 35.50%	0.265
Education level of the spouse	No Education	3 42.90%	4 57.10%	0.574
	Primary Education	30 53.60%	56 46.40%	0.574
	Secondary Education	11 64.70%	6 35.30%	0.574

For data on the other parameters of number of children at school, number of household members chronically ill and number of trainings attended on household livelihoods improvement, Mann-Whitney statistical test was performed. The results show no significant differences in the number of children at school (p=0.834), number of household members chronically ill (p=0.145) and number of trainings attended on household livelihoods improvement (p=0.927) across all the two household groups. Table 4.10 shows the average numbers recorded for each of the parameters under discussion, portraying no much difference between the two household categories.

Table 4. 10: Average numbers of children at school, household members chronically ill and trainings attended on household livelihoods improvement

Household category	Average No. of children at school now	Average No. of household members chronically ill	Average No. of trainings attended on livelihoods improvement
VSLA Household (n=52)	4.13	0.38	1.31
Non VSLA Household (n=47)	4.04	0.23	1.79
P-Value	0.83	0.15	0.93

From the analysis of this variable, it is clear that there is no significant difference in human capital possession between VSLA and non-VSLA households.

4.2.3 Physical Capital

In measuring this variable, three parameters on ownership of permanent house, transport facilities as well as agricultural implements were involved. These parameters were considered as critical aspects of physical capital at household level in the community where the study was undertaken.

Data for the permanent house ownership parameter was cross tabulated and then Chi-square statistical test applied to determine any significant differences with the analysis results presented in table 4.11. The results show that 86.5% of VSLA households owned a permanent house while only 36.2% of the non-VSLA households had permanent houses. This difference is statistically significant from the results of Chi-Square test ($\chi 2 = 26.758$, df = 1, P = 0.01).

Table 4. 11: Cross tabulation of household category and permanent house ownership showing frequency and percentages

Household category	Owning a house	No any house owned	P-Value
VSL (n=52)	45 86.5%	7 13.5%	0.01
Non-VSL (n=47)	17 36.2%	30 63.8%	0.01

In terms of ownership of transport facilities analysis, cross tabulation results in table 4.12 show that the majority of the non-VSLA households (74.5%) possessed none of the four transport facilities (Bicycle, Oxcart, Motorbike, Motorcar) as opposed to only 30.8% of the VSLA households. It is also observed that 63.5% of VSLA households own atleast one transport facility with only 25.5% of non-VSLA households in the same category. Surprisingly, only 5.8% of the VSLA households owned atleast 2 facilities while no any of the non-VSLA households owned the same. Chi-Square statistical test proved that these differences are significant ($\chi2 = 19.676$, df = 2, p = 0.01). This therefore means that the possession of transport facilities across the two household categories is also different.

Table 4. 12: Cross tabulation of household category and ownership of transport facilities (Bicycle, Oxcart, Motorbike, Motorcar)

Household category	Owning none of the transport facilities	Owning at least 1 of the transport facilities	Owning at least 2 of the transport facilities	P-Value
VSLA HH (n=52)	16 30.8%	33 63.5%	3 5.8%	0.01
Non-VSL HH (n=47)	35 74.5%	12 25.5%	0 0.0%	0.01

Further analysis on the agricultural implements ownership for the physical asset variable, cross tabulation results in table 4.13 show that an overwhelming majority of non-VSLA households (91.5%) did not own any agricultural implement as opposed to 48.1% of the VSLA households. It is also observed that the remaining 8.5% of the non-VSLA households are falling in the category of owning atleast 1 implement compared to 26.9% of the VSLA households. Surprisingly from the results, 21.2% and 3.8% of the VSLA households owned atleast two and three implements respectively with non-VSLA households registering 0% in both categories. Applying Chi-Square test these differences show significance statistically ($\chi^2 = 23.127$, df = 3, P = 0.01).

Table 4. 13: Cross tabulation of household category and possession of agricultural implements (sprayers, plough or ridger, treadle, solar or motorised pump, oxcart)

Household category	Owning no implement	Owning at least 1 implement	Owning at least 2 implements	Owning at least 3 implements	P-Value
VSLA (n=52)	25 48.10%	14 26.90%	11 21.20%	2 3.80%	0.01
Non-VSLA (n=47)	43 91.50%	4 8.50%	0 0.00%	0 0.00%	0.01

Since all the parameters are showing significant difference, it can be concluded that there is a difference between VSLA and non VSLA households in physical capital ownership.

4.2.4 Financial Capital

The financial capital variable had household savings levels and access to loans/credit as parameters for measuring possession of this asset by the households.

For the savings levels parameter, cross tabulation analysis results in table 4.14 show that the levels of savings for Non-VSLA households did not go beyond K40,000 as opposed to VSLA households which surpasses MK120,000. As expected on the two extreme ends of the savings categories, it is observed that 100% of those who don't save are from the non-VSLA households while for those who saved above K120, 000 are all from VSLA households. It is also evident that for the non-VSLA group that is involved in at least some savings (up to K40, 000), they only contribute 33.3% of that savings category with VSLA group accounting for the remaining 66.7%. Chi square test of this analysis had proven that these differences in savings levels are statistically significant (χ^2=77.612, df=4, p=0.01).

Table 4. 14: Cross tabulation of household category and savings levels showing frequency and percentages

Savings level category	VSL household (n=52)	Non-VSL Household (n=47)	P-Value
Don't save	0 0.00%	39 100.00%	0.01
Up to K40,000	16 66.70%	8 33.30%	0.01
K40,001 – K80,000	19 100.00%	0 0.00%	0.01
K80,001 – K120,000	6 100.00%	0 0.00%	0.01
Above K120,000	11 100.00%	0 0.00%	0.01

On access to loans parameter of Financial Capital variable, the cross tabulation analysis results (table 4.15) shows that of the households that had access to loans from any institution (formal or informal), 91.2% were from VSLA households while the remaining 8.8% were from Non-

VSLA households. On the other hand, it is observed that for those who had no access to loans, all (100%) were from Non-VSLA households. Chi square statistical test, the differences in access to loans are significant (χ^2 = 80.708, df = 1, P = 0.01).

Table 4. 15: Cross tabulation of household category and access to loans for the past 12 months prior to survey showing frequency and percentages

Loans accessibility category	VSL household (n=52)	Non-VSL Household (n=47)	P-Value
Access to loans	52 91.20%	5 8.80%	0.01
No access to loans	0 0.00%	42 100.00%	0.01

Since all the two parameters have demonstrated significant differences between the two households, it can be concluded that VSLA possess a superior financial capital than non-VSLA.

4.2.5 Social Capital

Social Capital is also one of the very important aspects of sustainable livelihoods at community level. This variable with respect to this study, was measured by four parameters of participation in community governance as well as social activities, household worth ranking status in the context of that respective community and household levels of acceptance in the community.

On household participation in community governance parameter, the results in table 4.16 shows that of all the VSLA households interviewed, 69.2% do participate in community governance activities as opposed to 21.3% of Non-VSLA counterparts. Chi-Square statistical test ascertains this difference to be significant (χ^2 = 22.822, df = 1, P = 0.01).

Table 4. 16: Cross tabulation of household category and participation in community governance showing frequency and percentages

Household category	Participates	Doesn't Participate	P-Value
VSLA Household Category (n=52)	36 69%	16 31%	0.01
Non VSLA Household (n=47)	10 21%	37 79%	0.01

In terms of household participation in social activities the focus was on activities like funerals, weddings, cultural events etc. Running cross tabulation analysis, it is observed that for the very active category, VSLA households are accounting for 21.2 % of their household's population as compared to 31.9 % in non-VSLA. It is also seen that for those who don't participate in any social activities, 13.5% are from the VSLA households while 17% are from the Non-VSLA category. Further, the majority of the households in both household groups are falling under moderately active category with VSLA group registering 46.2% of its households in this category and Non-VSLA households at 38.3%. These results are presented in table 4.17. These differences are not significant as proved by Chi-Square statistical test (χ^2 = 2.293, df = 3, P = 0.514).

Table 4. 17: Cross tabulation of household category and participation in social activities at community level showing frequency and percentages

Household category	Very active	Moderately active	Rarely participates	Does not participate at all	P-Value
VSLA HH (n=52)	11 21.2%	24 46.2%	10 19.2%	7 13.5%	0.514
Non VSLA HH (n=47)	15 31.9%	18 38.3%	6 12.8%	8 17.0%	0.514

On household wealth ranking status parameter, the focus was on the household's perception on how they rank in terms of wealth in the respective community perspective. Though a very subjective parameter, it's still an important aspect of social capital that was worth capturing in this study. Considering its subjectivity, the presented information was verified through UBR at the Social Welfare office. As expected, cross tabulation analysis results as presented in table 4.18, show a massive difference in the two extreme wealth categories where there is no VSLA household (0%) classified as poor while 31.9% of the Non-VSLA households are in that same category. Similarly, it is also observed that there were no Non-VSLA households in the Rich (Better off) category with 25% of the VSLA households in that category. It is also apparent that the majority of the VSLA households are in better off category (55.8%) while majority of non-VSLA are in moderately poor group (61.7%). Chi Square statistical test on these results, demonstrated that there is significant difference in the worth ranking status of the two household categories ($\chi^2 = 58.278$, df 3, P = 0.01)

Table 4. 18: Cross tabulation of household category and wealth ranking in respective community perspective showing frequency and percentages

Household Category	Poor	Moderately poor	Better off	Rich	P-Value
VSLA HH (n=52)	0 0.0%	10 19.2%	29 55.8%	13 25.0%	0.01
Non VSLA HH (n=47)	15 31.9%	29 61.7%	3 6.4%	0 0.0%	0.01

The final parameter to measure social capital was household acceptance levels in the community. This parameter emphasised on the household's perception, putting much focus on how it views its acceptance by the community around it as part of the community in which it exists. The cross tabulation analysis results for this parameter presented in table 4.19 shows that there are big disparities between the two household categories on the fully accepted and partially accepted levels. It is seen that 69.2% of the VSLA households feel fully accepted in the community with the 46.8% of Non-VSLA households also feeling the same. Further, it is observed that there are 7.7% of VSLA households with a perception of partially being accepted as opposed to 25.5 % of the Non-VSLA households. However, on somewhat accepted category, not far apart figures were recorded with VSLA group registering 23.1% in this category with Non-VSLA at 27.7%. Chi Square statistic showed these differences to be significant (χ^2 = 7.185, df = 2, P =0.28).

Table 4. 19: Cross tabulation of household category and household acceptance levels in the community showing frequency and percentages

Household category	Fully accepted	Somewhat accepted	Partially accepted	P-Value
VSLA HH (n=52)	36 69.2%	12 23.1%	4 7.7%	0.028
Non-VSLA HH (n=47)	22 46.8%	13 27.7%	12 25.5%	0.028

From the analyses on parameters measuring Social Capital, three parameters (75%) out of four, demonstrated significant differences between the two household groups in social capital. Therefore, it can be concluded that there is a difference in possession of Social Capital between VSLA and Non-VSLA households with respect to main livelihoods with VSLA category edging out non VSLA.

4.2.6 Natural Capital

This variable was measured by four parameters on size of land owned, household woodlot ownership, household access and management rights to community woodlot and natural resources.

On size of land owned by household's parameter, Man-Whitney U test was run with the results showing that the distribution of size of land owned is not the same between the two categories of households. The average land size for VSLA household (2.35 acres) was statistically proven to be significantly different from that of non-VSLA households (1.07 acres) at P=0.00

On household woodlot ownership, cross tabulation results in table 18 indicate that 13.5% of the VSLA households owned woodlots while only 2.1% in the Non-VSLA household category owned the same. Chi square statistical test proved this difference to be significant statistically ($\chi2 = 4.269$, df = 1, P = 0.039).

Table 4. 20: Cross tabulation of household category and woodlot ownership showing frequency and percentages

HH category	Owns Woodlot	Doesn't own	P-Value
VSLA Household (n=52)	7 13.50%	45 86.50%	0.039
Non-VSLA Household (n=47)	1 2.10%	46 97.90%	0.039

From this analysis, it can therefore be concluded that the ownership level of woodlot across the two household categories is not the same with VSLA households showing supremacy.

On household access and management rights to community woodlot, the cross tabulation analysis results as in table 4.21 show that 90% of the VSLA households in the communities with woodlots have access and management rights to such woodlots. On the other hand, only 37.5% of the Non-VSLA households have access and management rights over community woodlots

Chi square statistical test ascertained that these differences are significant ($\chi^2 = 5.513$, df = 1, P = 0.019). This therefore implies that there is a difference in household access and management rights on community woodlot between VSLA and Non-VSLA households with VSLA having an upper hand.

Table 4. 21: Cross tabulation of household category and access and management rights to community woodlot showing frequency and percentages

Household category	Have access and management rights	Have no access and management rights	P-Value
VSLA Household (n=52)	9 90.00%	1 10.00%	0.019
Non-VSLA Household (n=47)	3 37.50%	5 62.50%	0.019

Interms of household management rights and access to natural resources, the cross tabulation analysis results in Table 4.22 indicate that 32.7% of the VSLA households had management rights and access to natural resources on the highest level with non-VSLA households distantly at 12.8%. This big disparity in the two categories is also observed on those households that were not involved in any management and had no access to natural resources where VSLA recorded 11.5% with non-VSLA households registering 38.3% for that level. However, as expected, there is a small difference in the intermediary levels of medium and low, especially on the medium level where VSLA households had 28.8% against 27.7% for non-VSLA. These differences were proven to be statistically significant by Chi Square statistical test (χ^2 = 8.373, df = 3, P = 0.039). Therefore, it can be concluded there is a difference in access and management rights of natural resources between the two household categories again VSLA reigning over non-VSLA.

Table 4. 22: Cross tabulation of household category and level of management and access to natural resources showing frequencies and percentages

HH Category	Highest level	Medium level	Low level	No access and involvement	P-Value
VSLA HH (n=52)	17 32.7%	15 28.8%	14 26.9%	6 11.5%	0.039
Non-VSLA HH (n=47)	6 12.8%	13 27.7%	14 29.8%	14 29.8%	0.039

Analyses of all the parameters measuring natural capital are showing significant differences across the two household groups with VSLA households having an upper hand. It can therefore be concluded that there is a difference in the possession of natural capital between VSLA and Non-VSLA households.

In the analyses of all the five variables used in the assessment for sustainability of the main livelihoods for the communities in the study area, with respect to VSLA participation, varied results had been observed. There are four (80%) out of five variables (livelihood assets), where there has been a statistical proof in differences in possession of such by the VSLA and Non-VSLA households with VSLA reigning superior. On the other hand, only one (20%) variable of human asset/capital exhibited no differences in the possession of the same between the two household groups. It is apparent therefore, that VSLA has an influence in the household's acquisition or possession of a range of livelihoods assets in the Physical, Financial, Social and Natural and hence an impact on positive livelihoods outcomes and ultimately sustainable livelihoods.

4.2.7 Livelihoods Strategies

This was analysed using independent t-test in comparing the mean number of strategies that households depend on. Average number of strategies relied upon by VSLA which was 2.1 was found to be significantly different to the non-VSLA average of 1.3 with p-value of 0.01

4.3 Use of Savings Pay-Outs and Loans among VSLA Members

The third objective's research question was *"How does VSLAs households use the loans and pay-outs in relation to investments in sustainable livelihoods?"* The focus here was on main uses of the loan and share-out (pay-out) money, types of businesses normally done by the VSLA participants as well as challenges they face.

4.3.1 Most Use of Loan Money from VSLA

Asking participants to recount what they mostly use the money from loans for, in almost all the FGDs it was clear that members use the loans on four main items. The first item that was consistently and extensively mentioned by the participant was small scale business investment. The members indicated that they mostly prioritise investing loan money in small scale business for purposes of managing loan repayment and sustaining their savings through business returns. It was inspiring to learn that some of the members especially in old groups were trained on business management through partners like LISAP which probably explains why business investment was highly featuring as use of loan money.

The discussion also revealed that some VSLA participants were investing a lot in Agriculture through VSLA loans. This was mainly by means of buying agricultural inputs like fertiliser and seed as well as farm labour. The commonly grown crops that were mentioned were rice, maize and cassava which suit the area very well. As one participant Abel Mwanyongo said "*I get loan at the beginning of farming season and use it to hire labour and plough to till my rice garden since it's too involving"* This was common across all the groups suggesting that majority of the members rely on loans for farming.

While there was also a mention of some loan money being invested in education for school going children as well as buying of household food, the general feeling from the group was that these two were not primary uses of loan money. Despite not prominently being mentioned, there were still some members who had indicated that the loan money was being spent on paying school fees and other school necessities for their children. Some had highlighted using the money to buy food for the household as a basic need.

4.3.2 Main Uses of Pay-Outs

Unlike in the use of money from the loans, there is a diversity and some leisure in the use of pay-out money. There were as many uses mentioned by the groups that also included non-productive usage like recreation as opposed to loans. The groups had mentioned up to nine uses of pay-out money of which some of them were to do with celebrations and enjoyments at household level.

It was evident from the discussion in all groups that two items on use of share-out money dominated the discussion suggesting that they are the most common use. These were payment of school fees as and purchase of farming inputs, which were not core uses under loan money. It is not surprising that these two uses of pay-out money (school fees and agriculture inputs) are dominating the others as the share-out period coincides with school opening and agriculture season

It was also observed from the group discussions that investments in businesses was a key use of pay-out money for most members. This was also an outstanding use of money from loans, clearly underscoring its importance in terms of supporting livelihoods at household level. As Ndagha Mwamlima points out *"I take advantage of the payouts to invest in cross border business since pay-outs offer us more money at once which is also not subjected to interest.*

Further, it was also clear from the discussions that purchase of food for household consumption was another critical use of share outs. Some members highlighted during the discussion that some households experience food shortage in months of December, January and February and as such, take advantage of the share outs to cope up with this food deficit.

Unlike in the loan money, there was also a mention by a section of members of using the money for cerebrating Christmas and New Year which coincides with share-outs. Mostly members cited need for refreshing after a long and daunting year of working. One participant Winiwa Simutowe was quoted as saying "*Tijiphepiskengeko, chaka ntchitali ichi"*, meaning we work hard the whole year, so we need to refresh, so Christmas and New Year offers us that opportunity. Though non-productive, this use was viewed as an important aspect of life by the members as it stimulates and inspires new and positive thinking going into new cycle of VSLA.

The discussions also revealed other uses of share-out money that were mentioned though subtly that included buying of household assets, investment in poultry farming, purchasing farming land as well as house construction project investment. These uses varied across the groups with investments in farming land and poultry farming prominently mentioned in 2 year and 3 year groups while investments in household assets and house construction dominated in 4 year group as they require huge funds. For instance a participant in a four year group said she had bought half iron sheets for her house in the previous year and was finishing in the subsequent year since the iron sheets were expensive. *I bought 6 iron sheets from last year's payouts, I am buying the remaining this year* – Walinase Mwakawoko

4.3.3 Main Business Ventures for the VSLA Households

Besides the usage of loans and pay-outs, the analysis also looked at the main businesses that VSLA households do. Recalling from the main uses of loan and pay-out money, the focus groups overwhelmingly mentioned investments into small scale businesses as one of the uses of both loan and share-outs money. This section therefore analyses these business ventures with respect to sustainable livelihoods.

The discussions revealed that there are 5 main business categories that the VSLA members are involved in, supported by VSLA loans or share-outs. From all the groups, it was manifested that the majority of members are involved in petty trading business venture. Petty trading activities that dominated the discussion included tomato and other vegetables selling, flitters selling, selling local brewed spirits and plastic packaged water. It was evident that most members, especially in 2 year groups access low amounts of loans and share-outs at the end of the year translating to small capital that can only suffice small businesses. As one member said "*my shares are very little meaning that I am entitled to small loan and ultimately realize small share-outs at the end of the year which I cannot use to invest in businesses like grocery*.

Fish vending and hawker business also featured highly in the discussions especially in the 3 years and 4 years groups unlike the 2 year group. The area being in the lakeshore vicinity, it was not surprising to have some members, especially women involved in the fish business mostly acting as middlemen between fishermen and vendors from towns and cities. For hawker business, the majority of those into this venture were from 4 year group and were observed to have larger shares than others when probed.

There were also some members who indicated to be into Rice business as well as poultry farming especially in the 4 year groups. However, these were not viewed as common business ventures especially that they require huge capital.

4.4 Challenges Faced By the VSLA Groups

In order to understand the issues affecting the VSLA groups and how they impact on the livelihoods, the members were asked to highlight the key challenges faced by the groups as they operate. The main challenges encountered by VSLA participants as mentioned in the groups included inadequate business capital, high loan default rates among the members, low entrepreneurship skills for the members and lack of steady markets for their businesses

Interms of inadequate business capital, the main issue raised was that members are not able to raise enough capital to engage in a significant business that has better returns. This is associated with the shares that VSLA members have in their groups which are generally low to provide adequate capital base for all members requiring loans for business. However, this challenge was prominently observed in the group that had VSLA groups in existence for 2 years than the other two groups.

The challenge of high loan default rates among the members dominated the deliberations in most FGDs regardless of number of years of group's existence. Each group highlighted existence of some members who are perpetual defaulters or late payers of loans. This according to the members has a potential to disturb the group's cohesion, loan cycles and ultimately share outs at the end of the year. In dealing with such unwanted behaviors, the groups indicated that some of the members have been withdrawn from the groups by following what is stipulated in the group's rules. However, almost all the groups mentioned that they engage such members first to understand them and assist where possible in line with their guidelines and only revoke the standing orders when it's inevitable.

Low entrepreneurship skills for VSLA members was mostly mentioned as a challenge in 2 year group and moderately in 3 year group. It was revealed that business management trainings were not delivered to the relatively new groups mostly because these were facilitated by the government through Community Development office which is mostly financially challenged. "*I am not trained in any business skills just as any member of our group, unlike our colleagues in other groups from villages across who were supported by LISAP. I am using my general knowledge and also consult some knowledgeable business people to run my grocery business".*

This response from a member in 2 year old group suggests lack of business management skills amongst the members.

The group discussions across all the groups also revealed that many members have no steady markets especially for their agricultural produce. Those who invest their loans in agricultural inputs do so with the hope of high yield and sell to realize profits that may help them repay the loans and also support their families. However, the respondents felt that they have not been able to get such markets leading to a lot of losses. As Mrs Mkumbwa points out: "*Vendors infest our area once we start harvesting our crops like rice and offer us low prices. Since we don't know where to take our rice to, we just let them get it, but at the end of the day we don't even break-even.*"

It is only after addressing these challenges that VSLAs can flourish even more in the area.

By and large, the participants' views were that VSLAs have assisted them to transform their lives from wretched to improved ones. They cited better household income, better dwelling houses, possession of livestock and household assets like TVs, beds etc. Some mentioned that they now can afford to send their children to school and even provide for all their education needs. As lamented by Ester Sikaona, "*I have been able to send my son to Miracle Technical College where he is pursing Hotel and Catering Management program. I use the shareouts to pay for his fees and also supplement it with the proceeds from my fish business".* Further, members also stated that the groups have helped them build a lot of social networks amongst themselves and other groups through the interactions and also exchange visits. This is also an important aspect of sustainable livelihoods

CHAPTER FIVE: DISCUSSION

This chapter provides a discussion of the main findings from the research with a focus on the research objectives and while making reference to other studies. The research had 3 objectives upon which the discussion will be based and organised.

5.1 VSLA Impact on Food Security at Household Level

The first research objective evaluated the impact of VSLAs on household food security. The research findings showed that VSLA has a positive impact on household food security with VSLA household demonstrating supremacy over non-VSLA households in all the variables used to measure food security that this research deployed. There were five variables that were used in determining whether a household is food secure or not which were: 1) household food availability, 2) household meal consumption, 3) livestock ownership, 4) crop diversification and 5) household income. Discussion of findings under these variables follows:

5.1.1 Household Food Availability

As regards household food availability, the findings show that VSLA households, on average, would go for 7 months with own-grown staple food after harvesting as opposed to non-VSLA households which had an average of 3 months. This is not far from the study results by Anyango (2005) in an Impact Assessment Study on Village Savings & Loans Component of a Central Region Livelihood Security Project in Malawi. The study had found that VSLA participants' food reserves lasted for approximately 8 months on the average before they were depleted while on the other hand, non-participants' food stocks averaged 5 months before depletion.

In terms of staple food available in the household at the time of interviews, VSLA households were found to have had better average stocks of food than the non-VSLA category. Further, it was observed that non-VSLA household's average crop yield (134 Kgs) for the last two growing seasons prior to interviews was significantly low as compared to VSLA category (452 Kgs).

These differences between the two household categories on the household food availability could be attributed to better access to agriculture inputs by the VSLA households facilitated by the loans as well as pay-outs which isn't the case with the other group. Better access to inputs has an effect of heightening crop production and hence food availability at household level for the VSLA category. Despite the prominent supremacy of VSLA households under this variable in the study, it was noted however, that the crop yield for 2017/18 growing season was generally very low due to heavy flooding in the area and thus affecting the crop yield averages as captured in this study. There was also a mention of a fracas in Chakwera village in the study area where some household's maize crop was slashed down in the field by a rival village effectively affecting the 2017/18 crop yield.

5.1.2 Household Meal Consumption

Analysing the household meal consumption, it was also not surprising to see VSLA households having an upper hand over non-VSLA households. In determining this variable, participants were asked on average number of meals that they had managed per day in the previous growing season and number of food groups afforded by the household for the past 3 months preceding the survey. The analysis revealed that majority of VSLA households had more ability to manage 3 meals a day for specific period of year as opposed to non-VSLAs. Further, VSLA households were also better than non-VSLA households on affording the required 6 food groups. This suggests that VSLA households have better food stocks and the means to purchase supplementary foods to achieve food group diversity as well as more meal frequencies. This is mainly as a result of the high crop yield in the VSLA households attributed to the better access to inputs as well as more income at their disposal.

There is however some contradiction with the findings of a closely related study by Wasambo (2017) on Association between VSLA and Nutritional Status and Dietary Practices of Under-Five Children in Karonga District. The study did not find any link between VSLA participation and meal frequency as well as dietary diversity which are a proxy for number of meals and food groups parameters of household meal consumption variable for this study.

The contradiction in the results could be attributed to the fact that the study by Wasambo (2017) targeted households with Under-Five children which are normally supported with food under different programs at district level like WFP's Supplementary Feeding Program, regardless of VSLA status. As such, it is expected that such households have adequate and diverse food for consumptions 3 times a day.

5.1.3 Livestock Ownership

Looking Further at Livestock ownership variable, the results show that VSLA households own an average of 13 livestock of different categories while non-VSLA own an average of 2 livestock. This difference was proven to be significant to conclude that VSLA has a positive impact on ownership of livestock. This is largely because the VSLA households have the means to acquire livestock through purchasing especially using the share-out money at the end of the cycle, an opportunity not available for the non-VSLA households. Most VSLA households indicated to have purchased livestock especially cattle and pigs once share-outs are done at the end of the cycle.

Beck (2005) seem to agree with this result in a study on Impact of Accumulating Savings and Credit Associations on Child Well-Being in Mozambique. The study found that out of the VSLA share-out money that is used for productive investment, a big proportion of 43% goes into livestock purchase implying more investment in livestock at household level by VSLA participants. However, cognisant must be taken of the fact that in Karonga livestock is a big source of pride and culturally valued highly. As such, this can be taken as driving factor for every household to own some livestock and thus considered also as a contributing factor to livestock ownership apart from VSLA effect.

5.1.4 Crop Diversification

Crop production is considered as a critical aspect of food security since it is what delivers the majority of the food that is consumed at household level. However, to achieve robust food security in the context of crop production, cultivation of a variety of crops ought to be embraced. In analysing crop diversification variable, this study focused on food and cash crops that are mostly cultivated in the study area to see how households are diversifying on crop production. The results revealed that the VSLA households cultivate an average of 3 crops with non-VSLA averaging 2 crops. The notable crops that are cultivated include rice, maize, cassava, bananas, sweet potatoes, groundnuts and pigeon peas with the other crops mostly supplementing maize and cassava as the main staple food crops.

Although the difference between the crops grown by the two household categories appear marginal, statistical test proved this difference to be significant. The study established that this difference is mostly associated with access to agricultural inputs and labour. Most of the VSLA participants indicated that VSLA participation allows them to procure inputs such as seed and fertiliser as well as labour to help them in their fields which gives them the audacity to grow even more crops than their non-VSLA counterparts. Further, it was observed that VSLA households generally have access to more agricultural land that facilitates diverse crop production

5.1.5 Household Income

The last variable for measuring VSLA impact on household food security was household income. Household income is very difficult to measure especially that most people are not comfortable to share monetary information with strangers and that most communities do not keep records of cash inflows. However, much simpler proxy indicators like accumulation of assets and consumption expenditures are normally used to estimate household income. This is exactly what was done in this study applying household per capita income, mostly determined by liquid assets, and consumption expenditures to proximate household income.

As expected, analysis of this variable revealed that VSLA households have a considerably higher household income than the non-VSLA households as exposed by a critical analysis of household per capita and expenditures on essential areas like education and health. On household per capita, it was observed that VSLA households had an average of K88,306 whilst that for non-VSLA household was K20,653 clearly demonstrating how important VSLAs are in influencing household income. Further, on how households spend on critical areas of education, health, agricultural investments and food items, the study shows that VSLA participants spend quite highly than the non-participants do. For example, on the highest expenditures category of above K100,000 it was only VSLA households managing that expenditure levels with no-one from the non-VSLA reaching that level. This is attributed to the more disposable income that VSLA households have than their non-VSLA counterparts having had access to such income through VSLA loans and most importantly share-outs at the end of the year. It was observed that the income is enabling the VSLA households acquire more assets and also permitting them to spend well on some social aspects like education and health which couldn't be possible otherwise. These findings, mirror what Kesanta and Andre (2015) found in their study which found that VSLAs participation had positive impacts on their children's education and health, allowing the participants to invest in education and also pay for health bills. It is further collaborated by Mochoge (2016), whose study results shows that VSLA participants were able to foot the medical expenses of their dependants and also pay their school fees and that of their dependants.

In general, what these results mean is that when people join savings groups in their respective communities, there is an assurance of improvement in food security at household level for those households they are coming from. This has a potential to improve nutrition and health status of household members who are critical in the development of their areas and the country as a whole. Further, VSLAs are also seen to contribute to contribute to increase in household income which is also necessary for food security as it provides the economic access to food by households

5.2 Livelihoods With Respect to Diversity and Sustainability

The second objective focused on critical analysis of the main livelihoods of both the VSLA and non-VSLA households with respect to sustainability. Analysis of this objective, revealed that VSLA contributes to positive livelihood outcomes and thus sustainable livelihoods at community level. Its analysis applied DFID's Sustainable Livelihoods Framework (SLF) with attention on the five livelihood assets of Human, Physical, Financial, Social and Natural. These assets in the context of SLF are considered as conduits of positive livelihoods strategies and outcomes which facilitate sustainable livelihoods and as such, possession of the same is regarded as a pathway to sustainable livelihoods.

While there are many livelihoods that the communities in the area rely on, the main ones are Farming, Fishing, Small scale business and Piece works. These were all subjected to a sustainability investigation with reference to the five livelihood assets (Human, Physical, Financial, Social and Capital) which in this context were treated as variables.

5.2.1 Human Capital

Analysis of Human asset variable involved five parameters which were education levels for both household head and spouse, Number of children at school, Number of household members chronically ill and number of trainings attended on household livelihoods improvement. Surprisingly, the study did not find any VSLA influence on human asset acquisition as there was no significant difference in its possession between the two household categories.

This could suggest that human capital is such an important livelihood asset in the community such that everyone strives to possess it no matter how challenged a household could be. It is a known fact that human capital is the basis for livelihoods. Whilst it's known that it's not sufficient as stand-alone asset, human capital is needed in order to leverage all other forms of capital aside from its intrinsic value (UNDP, 2017). This finding therefore reveal that a household doesn't need to be in VSLA in order to acquire human capital which is vital for sustainable livelihoods.

5.2.2 Physical Capital

Looking at physical capital, the study shows that there are significant differences in its possession between the two household categories. VSLA participants had demonstrated supremacy over their non-VSLA participants in the possession of physical assets clearly showing that VSLA has an influence on physical asset acquisition. The variable had involved ownership of permanent house, transport facilities and agricultural implements as parameters for its measurement.

This result suggest that VSLA households have better access to robust financial resources for investing in the physical assets than their non-VSLA counterparts. Investments in physical assets like house requires huge amount of money which according to VSLA participants interviewed, is mainly accessible through lump-sum share-outs at the end of the cycle. Results by Anyango et al. (2007) in a study on VSLA experience in Zanzibar, seem to agree with these study findings on investments in houses. The study revealed that the majority of the share-outs (46% for male participants and 24% for female participants), was invested in housing improvement projects. Mochoge (2016) had also similar findings pointing at VSLAs as facilitating participant's permanent houses ownership at community level which could have not been possible otherwise. VSLAs supremacy over non-VSLA on physical assets possession is therefore not a surprise

5.2.3 Financial Capital

Financial asset variable analysis focused on two parameters of household savings levels and access to loans/credit. As anticipated, the study results indicate that there is a significant difference in possession of this asset with VSLA households doing better by far. In the analysis of both parameters of household savings and access to loans, it is observed that VSLA households had better savings levels and access to loans than the non-VSLA households. This is not surprising since VSLAs provides a platform for saving money as well as an opportunity for obtaining loans. Savings culture amongst the non-VSLA is almost non-existent and that opportunities for loans from either formal or informal institutions are not easily found. This explains why there is improvement in household income in VSLA households than non-VSLA as revealed under objective 1

It is for this reason that the VSLA households are having an upper hand interms of physical asset possession as observed in this study. This collaborates well with the study findings by Ksoll et al. (2013) where VSLAs were observed to have improved housing quality, household income and asset accumulation amongst participating households. VSLA households were able to expand their incomes and consequently acquire physical and productive assets, just as we see in this study.

However, while this savings culture is celebrated, it was however discouraging to note that almost all the groups and individuals have no bank accounts for safeguarding their money. All the savings are kept in homes with some citing long distances to banks and fear of long processes associated with formal institutions. This poses a risk of the hard cash being lost easily to thieves and untrusted custodians.

5.2.4 Social Capital

Social asset is also an important aspect of the livelihoods at community level as it is a means that holds societies together, without which collaboration and cooperation would not be possible. Results of the analysis of this variable had revealed that possession of this asset was also significantly different between the two household categories with VSLA also supreme. Measurement of this variable had involved four parameters which are: participation in community governance as well as social activities, household worth ranking status in the respective community's perspective and household levels of acceptance in the community. Most of these parameters were so difficult to capture and measure as they involve people's perception and opinion. Nevertheless, the data was still captured and analysed as required without challenges.

Amongst the four parameters for this variable, only participation in community social activities like weddings showed no significant differences between the two household categories. However, on its own, it wasn't enough to sway the conclusion on social capital possession the other way as it only represented 25% of the contrary opinion.

On participation in community governance, the analysis shows that more VSLA than non-VSLA households do participate in the same at community level. Primarily this means that more VSLA households are members and hold positions in local governance structures like Village Development Committees (VDCs) than non-VSLA households. This may suggest that VSLA participation brings confidence among the community members to entrust them with leadership roles. The communities build trust in those who participate in VSLAs probably as good and reliable leaders who are more organised, inclusive and responsible. This could be because most of the VSLA groups are supported with group dynamics and leadership trainings and that they demonstrate unifying and responsible attribute by joining such groups with a common cause. Further, it was observed that VSLA leaders were more confident and willing to speak during the data collection gatherings a trait that is rare in most people at community level. VRG & Mayoux (2008) seem to support these findings through their study on WORTH program in Nepal that has a savings component. The study had found that participants, who were of course women only, had gained a lot of confidence to speak to public and they felt that members of the community respected them more because they now had the resources and knowledge to help in community issues.

On household wealth ranking status and household acceptance levels in the community parameters, the measurement hinged on people's perception about the indicators in question. In both parameters there are significant differences between the two household categories with VSLA reigning over the non-VSLA. It was observed that the majority of the VSLA households are wealthier than their non-VSLA counterparts in the context of the community they belong to. Further, it is also observed that in terms of household acceptance levels in the community, more VSLA households had full acceptance in the community as opposed to the non-VSLA households. All this means that VSLA households have a high social status in the community as compared to non-VSLA which as a result wins them a complete acceptance stance amongst the other community members as trustworthy and respectable members of that society. This may suggest that having good income and valuable assets which are associated with VSLA, facilitates one's acquisition of high social status amongst the communities.

These findings are consistent with Diallo et al. (2017), where VSLAs amplified the pre-existing social capital at community and individual level by deepening social cohesion and networks, relationships and reciprocities among members. These are important machineries for social inclusion and integration at individual level, necessary for building resilient livelihoods.

5.2.5 Natural Capital

The final variable for measuring sustainable livelihoods, was Natural capital. This variable was measured by four parameters on size of land owned, household woodlot ownership, household access and management rights to community woodlot and natural resources. Analysis results for this variable revealed that there is a significant difference in possession of the capital by the two groups of households with VSLA, as expected, being in a stronger position than non-VSLA.

Looking at land ownership, it wasn't surprising that VSLA's average land size of 2.35acres was significantly different from non-VSLA's average of 1.07 acres. This is mainly because VSLA households have the financial power to purchase additional land which mostly was for crop production. It was observed that most of the VSLA households were engaged in Rice production which mostly require huge land parcels away from their dwelling places and acquired through purchasing in most cases. Care (2015) evaluation study on Resilience Champions program in Mali collaborates with these findings. The study established that VSL reduces vulnerability of communities through initiatives like purchase of land for cultivation. Women were found to have been empowered through participation in VSLA to access land where they produced some crops thus contributing to their household's resilience.

On woodlot ownership, household access and management rights to community woodlot and natural resources, again there are significant differences between VSLA and non-VSLA households. These results suggest that VSLA has a positive influence on environment and natural resources management. Most of the interviewees indicated that VSLA trainings that are delivered by extension workers, mostly mainstream environment which as a result capacitates them in terms of environment and natural resources management. This capacity is what enables them to establish their own woodlots as well as take keen interest in sustainably managing natural resources within their communities. Some VSLA households also cited high income at household level as a factor helping them not put pressure on the environment including overfishing on the lake.

To the contrary, households with low income are generally known to exert a lot of pressure on natural resources that they have access to. There is a tendency to reduce the quantity and quality of such natural resources in order to increase their current consumption to the detriment of the future generation (World Bank, 2007). The continued depletion of natural resources is a threat to human kind that has also an effect poverty.

VSLA are thus seen to improve natural resource management of members from an adaptive perspective

5.2.6 Livelihoods Strategies

On this variable, the study has revealed that VSLA participation has a positive effect on the number of livelihoods strategies that a household relies upon. This may suggest that VSLA households have the means to invest in many strategies which eventually lead to many livelihoods outcomes than their non-VSLA counterparts.

Conclusion on Livelihoods Strategies, Outcomes and Sustainability

From the analysis on objective 2, it’s observed that 4 (80%) of the 5 variables are showing significant differences between the VSLA and non-VSLA households on the livelihood assets possession with VSLA edging out non-VSLA. For this reason, a determination can thus be made that VSLA has a positive influence on acquisition of varied Livelihoods assets that in turn generates wide-ranging livelihoods strategies. These diverse strategies are responsible for varied livelihoods outcomes, including food security and household income which are a pathway to household resilience and hence sustainable livelihoods. The study has provided evidence enough through the analysis of the livelihood assets to conclude that participating in VSLA facilitates positive livelihood strategies and outcomes that ultimately contribute to sustainable livelihoods in TA Kilipula area.

5.3 Use of Savings Pay-Outs and Loans among VSLA Members

The third objective focused on unearthing the main uses of money realised from VSLA either as loans or pay-outs at the end of the cycle. This was aimed at triangulating with the results under objective 2 to understand if VSLA participants are investing the money in their main livelihood activities and hence contributing to sustainable livelihoods. The key analysis was in two folds, usage of loans money and usage of pay-outs money. The objective also looked at the main business ventures run by VSLA participants with the purpose of understanding how they impact on sustainable livelihoods of the VSLA participants. Similarly, it went further to analyse the main challenges facing VSLA participants in carrying out their activities relating to VSLA. Generally, the information collected under this objective which was through Focus Group Discussion, helped to provide explanations for the results under the first two objectives.

5.3.1 Most Use of VSLA Loan Money

Investigation on the main uses of loan money revealed that the participants put the money to four main uses; investing in small scale businesses, purchasing of farming inputs, paying school fees and buying of food and household assets. From the results, it is observed that investments in small scale business and purchasing of farming inputs are the most dominant use of the loan money. Coincidentally, these two leading uses of VSLA loan money, which are also consistent with the main livelihoods of people in the area as discussed under objective 2, are the only investments directly contributing to people's livelihoods. Adams et al. (2013), had similar findings through a VSLA and livelihoods study in Bole District, Ghana where 76.3% of the loans money was invested on direct livelihoods activities with 74.2% going into business and 2.1% for acquisition of land for farming activities. VSLAs can thus be confirmed to indeed contribute towards sustainable livelihoods of the communities in TA Kilipula

5.3.2 Most Use of VSLA Pay-Out Money

Analysis of the pay-out money usage, exposes a diverse use of the money unlike in the loan money usage. It presents about 9 uses of the pay-outs which also include non-productive uses. In the midst of these uses, it's observed that four uses are direct livelihoods investments in Poultry farming, small scale business, purchasing of farm inputs and purchasing of farming land. The other uses captured from the discussions which were either indirectly contributing to livelihoods or not contributing at all were: education investment, Christmas/New Year celebrations, house construction, purchase of household food and household assets.

The results had evidently revealed that agriculture and business investments are part of the core uses of the share-out money apart from education investments and purchase of household food. This clearly demonstrates how important the share-out's are in contributing to the livelihoods considering that agriculture and small businesses are amongst the key livelihoods strategies for the people in the area. This importance is also underscored by the fact that these two uses were also identified as key uses of loan money discussed earlier.

Amongst the many uses of pay-out money captured during the discussions, it was also observed that people especially those in groups of 3 and 4 years existence, are also using the money to celebrate Christmas and New Year as the share-outs coincide with the festive period. While this may not be an investment into livelihood, it is a critical aspect of human well-being. It provides immense happiness and allows people to relax and invigorate their minds and come back afresh to their usual livelihoods activities. As such, it ought to be looked at as a means of facilitating better livelihoods in a way, something also shared by some of the interviewees.

It was generally interesting to note that the share-out money uses, not directly contributing to livelihood, were mostly being mentioned by people in the groups that had been in existence for more years. For instance, spending for Christmas and New Year, purchase of household assets as well as house construction were dominantly captured in 3 and 4 years groups. This could suggest that VSLA members prioritise investments on livelihoods building in their initial years of savings and only consider other indirect livelihoods investments once that is realised. This means that just as in the loans money, pay-out money is also facilitating investments in the main livelihoods for the people in the area and contributing to its sustainability.

However, from the results, it is apparent that the pay-out money direct contribution towards livelihoods support is lower than in the loan money usage. This could be attributed to the diverse use of the money, timing of the share-out as well as the receiving arrangement where members get huge pay-out at once at the end of the year. As such, it can therefore be concluded that loan money is used more for productive purposes as opposed to pay-out money. This is very much in agreement with Beck (2013) whose study findings in Mozambique puts productive usage of loan money at 86%. This development is mainly because share-outs are accessible once as lump sum and that they coincide with festive period where people spend quite substantially on celebrations. Further, share-outs also accords with school fees paying period hence the less contribution to direct productive investments.

5.3.3 Main Business Ventures by the VSLA Households

Interms of main business ventures' analysis, it was revealed that VSLA participants are involved in five main business categories. These five businesses identified were petty trading, Fish vending, Hawker business, Rice business and commercial poultry farming. Petty trading activities captured were mainly on tomato and vegetable selling, flitters selling, selling local brewed spirits and plastic packaged water.

The analysis of these main businesses shows that majority of those people in business are into small businesses which normally require very small amounts of money to start up as gathered from the groups, mostly in the 2 year group. As such it is not difficult for anyone even with small capital to engage into some entrepreneurship and it also explains why a good proportion of loan and pay-out money is invested into businesses. However, these businesses especially petty trading and fish vending in the area, can be prone to collapse with their small working capital and also dependence on the unpredictable weather conditions on the lake. The small capital amounts observed in 2 year group, can be attributed to the groups being relatively new with members still building on their savings and investments.

Further analysis reveals that the dominance of the small businesses, is because the members' are able to only access small amounts of loans and pay-outs at the end of the cycle. This suggest that the majority have small shares in the groups, especially new groups, hence lesser amounts of productive loans and share-outs at their disposal and ultimately small capital to invest in businesses. Groups with more years have advantage of having more savings and therefore huge capital supporting a range of more sustainable businesses like poultry farming. Thus, more years of VSLA participation contributes positively to the diverse and sustainable livelihood strategies than less years.

5.4 Challenges Faced By VSLA Groups

On challenges being encountered by the VSLA groups, there is a revelation that there are five prominent challenges. These were inadequate capital for both group and individual businesses, high loan default rates, lack of or inadequate entrepreneurship skills, lack of steady market for their businesses and less participation or commitment in the group's activities by some members.

As expected, inadequate capital is a challenge that is affecting all the VSLA groups, thus contribution to sustainable livelihoods is more prominent with though prominent in the young groups. It was also observed that lack of entrepreneurship skills and lack of steady markets is challenging the groups, mostly young and unorganised groups. This is mainly because individuals contribute small shares to the VSLA and that the groups are not engaged in viable businesses to boost their lending capital. Further, most of the members are not trained in business and marketing skills to capacitate them on proper running of their businesses. Saka & Musonda had similar findings in their study on VSLA impact in Zambia where they found that 100% of the VSLA groups lacked access to markets. These challenges have a bearing on the main livelihoods of the people especially small scale businesses and farming. For example, inadequate capital would mean low business investment and hence insecure and unsustainable business. This has a potential to frustrate VSLAs efforts towards achieving sustainable livelihoods for VSLA members.

However, it is evident from the VSLA members that VSLAs have tremendously transformed their lives especially by increasing their household's income. This has led to improvements in many aspects like hygiene and sanitation, nutrition status, food security at household level.

This has a potential to ultimately contribute to poverty reduction in the district and country at large.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

This chapter presents conclusion on the study as well as recommendations derived from the findings of the study. It also presents suggestions for further studies that may address gaps that this study may have not been able to address, embedded in the recommendations.

6.1 Conclusion

This study assessed the impact of VSLAs on food security and livelihood strategies of rural communities in TA Kilipula in Karonga district. The study had specifically aimed at evaluating the influence of VSLAs on food security at household level as well as comparing main livelihoods for VSLA and non-VSLA households' with respect to sustainability. From the findings presented in this study, it can be concluded that VSLAs have a positive impact on food security and household income and other livelihoods strategies hence sustainable livelihoods. The results have demonstrated that participating in VSLA initiative potentially leads to food security attainment and sustained livelihoods at household level.

The study has also found that loans and payouts for VSLA are contributing to investments that are facilitating livelihood strategies that are critical for positive livelihood outcomes. It is the loans, however, that are invested in more productive investments than the payouts.

Considering that the study had no baseline data to compare the results with and had a relatively small sample, the study used a quasi-experimental approach with VSLA and non-VSLA households as treatment and control groups respectively. This methodology therefore, offered a practical and realistic way of conducting the study and also presenting higher external validity than most true experiments since real-world interventions, i.e. VSLA and non-VSLA groups, were involved.

However, the methodology by its design, did not allow randomization of test subjects as households were assigned to the groups according to the VSLA group status and not randomly. This made it difficult to verify that all confounding variables have been accounted for, thereby limiting generalisability of the results. Nevertheless, the effect of confounding variables was minimised by bringing in restrictions in the sampling of the cases in the treatment group. This included sampling VSLA members from the same category of households under the UBR household poverty classification, which is the poor (poorer and poor) group. In addition, the households were all picked from groups that had been participating in VSLA for atleast 2 years.

While this design limits the generalizability of the results, this approach provides a new insight into research studies perspective. We have seen the absence of baseline data being ably addressed by the design choice of the study whilst still realising the intended results. We can therefore learn that impact of a project or program can still be measured even without undertaking a baseline survey prior to introduction of the intervention.

Further from the DFID's Sustainable Livelihoods Framework (SLF), a conceptual framework that was used in this study, we can learn that the framework is flexible and can be applied in different situations including in research studies. The framework has all along been known to be used in development planning circles as an analytical tool for designing poverty reduction programs and projects. Yet we observe that in this study, it has been used for analysing and understanding contribution made to livelihoods sustainability by an intervention at community level in a research context. In addition, the study has also clearly revealed that VSLA can be positioned within the Sustainable Livelihoods Approach to development as a livelihood strategy to stimulate successful livelihoods outcomes and ultimately poverty reduction at household and community level. This said, the study recognises that there are other equally robust livelihood frameworks other than the DFID's SLF that could realise even stronger results if used.

All in all, the study has largely contributed to the debate around financial inclusion and poverty reduction by analysing VSLA as a pathway to sustainable livelihoods at both household and community level. The study has provided ample evidence that financial inclusion, through VSLA initiative, potentially contributes to poverty reduction for the excluded rural masses. However, the author takes cognisant that the poverty reduction is a very vast and complex spectrum that can't just be achieved with one approach like financial inclusion through VSLA.

6.2 Recommendations

Based on the conclusions as well as what was observed and encountered during the course of the study, the study has drawn some recommendations aimed at improving VSLA programming and better understanding the implications of these results.

To begin with, the study recommends upscaling of VSLA initiative at community level. Since the initiative has proven to be a catalyst for food security and sustainable livelihoods attainment, it would be proper to ensure that it has wider coverage. In view of this, Government and other development stakeholders should ensure that they fully embrace this initiative as a livelihoods improvement and poverty reduction strategy for purposes of facilitating upscaling the drive. It's not a secret that it is easier and effective to adopt an already existing and popular development strategy at community level in order to achieve sustainability of an intervention. VSLA fits perfectly in this respect.

In order to maximise the achievement of positive livelihood outcomes through VSLA programs, stakeholders promoting VSLA interventions need to support the groups with initiatives that may facilitate increase of the capital for the groups. This may in turn help members also access more and adequate capital for their businesses as there would be sufficient revolving money. It was observed that most businesses are small and hence prone to collapse because they operate on very small capital which can be addressed by pumping in more capital in the VSLAs. Further to that, VSLA initiatives should ensure that more loans are accessible to the members, since it was observed that loans are used for more productive activities that share-outs.

In this regard, it would be imperative if VSLAs are linked to partners for external financing and support for running of a viable and profitable group business. This may result in members having access to huge loans and share-outs which would translate into more prominent and sustainable individual businesses hence sustainable livelihoods. In Kenya for instance, some VSLA groups have been linked to Kenya Entrepreneurship Empowerment Foundation (KEEF) which is able to support the members with additional loans should they need money beyond their entitlement at group level. Members are able to get financing up to five times the amount of individual savings the borrower has in the group with the required savings serving as collateral for the external loan, along with a solidarity guarantee from group members (Severson, 2012).

Methodologically, the issue of undertaking a study with baseline study done prior to interventions, need to be considered in any future research studies on the topic. This eliminates experiment designs and effectively deals with challenges that are associated with such designs like confounding variables. Finally, since the study takes cognisant of other existing SLA methodologies apart from the DFID framework, it could be insightful to further research VSLA impact on sustainable livelihoods by applying the other SLA methodologies like the one advanced by UNDP. This could help in attaining a stronger conclusion on the impact of VSLA on food security and sustainable livelihoods and help in validating or invalidating this study results.

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APPENDICES

Appendix 1: Questionnaire for Data Collection for Objectives 1 and 2

Research topic: Assessing Impact of Village Savings and Loans Associations (VSLAs) on Food Security and Sustainable Livelihoods of Rural Communities in TA Kilipula in Karonga District

Household interviews to be used in collecting data on objectives 1 and 2 using this structured questionnaire

OBJECTIVE 1: To evaluate the impact of VSLA on household food security in TA Kilipula in Karonga District

Section 1: General Household Demographic Information (To be administered to VSLA member in case of VSLA Household, and head of household, for non VSLA household)

1. Household status in terms of VSLA participation: VSLA [1]; Non VSLA [2]
2. Name of the respondent ____
3. Age of the respondent ____
4. Sex of the respondent : M [1]; F [2]
5. Education level: No Formal Education [1], Primary [2], Secondary [3], Tertiary [4]
6. Marital Status: Single [1], Married [2], Widowed [3], Divorced [4], Separated [5]
7. Household headship: Head of Household(HH) [1], Not Head of HH [2]
8. Number of regular members in the household ___________________
9. Main occupation/ livelihood source of the respondent: Farming [1], Fishing [2], Small Scale business [3], Piece works [4], Formal employment [5] Other [6] Specify______

10. How many years have you been a member of the VSLA (*for VSLA members only*) ____________________

Section 2: Household Food Availability

1. On average how many months do you go with staple food (own grown) after harvesting in a cycle of a year (refer to the last two growing seasons, of 2016/2017 and 2017/2018 with a year cycle from May to April) __________________________
2. How much staple food (Maize, Rice and cassava) is available in your household currently? (Calculate estimates in Kgs) ___________________
3. Average amount of staple food harvested for the last two growing seasons in Kg (estimates in Kgs).
   a) What was the amount of staple food harvested in the 2016/17 ____________
   b) *What was the amount of staple food harvested in the 2017/18* ____________

   Average ___________

Section 3: Household Meal Consumption

1. Has your household been managing to consume three meals per day for the past year (reference should be to the 12 months cycle of the previous growing season – May 2017 to April 2018):
   i. No [1]
   ii. For only a period of up to three months after harvesting [2]
   iii. Up to six months after harvesting [3]
   iv. Up to 9 months after harvesting [4]
   v. Throughout the year [5]

2. How many food groups in a day has the household been managing to eat on average in the past 3 months *(present a clear picture to the respondent of the 6 food groups for better and reliable responses)*:
    i. Managing 1-2 food groups [1],
    ii. Managing 3-4 food groups [2],
    iii. Managing 5-6 food groups [3]

Section 4: Livestock Ownership (*The analysis will look at the average number of livestock category per household between the two groups of VSLA and Non-VSLA*)

1. Number of cattle owned _______________
2. Number of goats owned ________________
3. Number of chickens owned _____________
4. Number of pigs owned _________________

Section 5: Crop Diversification

1. How many food crops were grown by the household in the previous growing season? _____________

   List them ____

   ____

2. How many cash crops were grown by the household in the previous growing season? _____________

   List them ____

   ____

Section 6: Household Income *– This section is a sensitive one as households normally don't want to disclose their incomes to strangers, therefore proper probing tactics should be employed in order to gather adequate and reliable data under this section.*

1. What is the household's cash savings levels for the past 12 months (*capture all savings in banks, village bank, home or anywhere else*)

   Don't save [1]; Up to K40 000 [2]; K 40 001 to K80 000 [3]; K80 001 to K120 000 [4]; Above K120 000 [5]

2. Household per capita income

   (i) What is the total income of the household (focus on the savings, earnings and value of key household assets of house, livestock, transportation, Agricultural equipment) for the past twelve months) ________________

   (ii) (ii) How many members are there in the household __________________________

   Calculate per capita income (divide total income by total number of household members ______________________

3. What has been your household's expenditure levels for the past 12 months under the following key expenditure categories

Category / **Spending levels**	**Education**	**Health services**	**Agricultural inputs**	**Food**
No expenditure	1	1	1	1
Up to K10,000	2	2	2	2
K10,001 - K30,000	3	3	3	3
K30,001 – K 60,000	4	4	4	4
K60,001 – K 100,000	5	5	5	5
>K100,001	6	6	6	6

Objective 2: To analyse the main livelihoods of VSLA and non VSLA households with respect to sustainability

Section one: Human Capital

1. Educational level of the household head (Get information from Objective 1, Section 1:4, if already captured)

   None [1]; Primary [2]; Secondary [3]; Tertiary [4]

2. Educational level of the Spouse

   None [1]; Primary [2]; Secondary [3]; Tertiary [4], N/A _________

3. No. of children/dependants now at school ____________________________________
4. No. of household members with atleast basic education _________________________
5. No. of household members chronically ill _____________
6. a). Has any household member attended any formal or informal trainings with an impact on household's livelihoods improvement

   Yes [1]; No [2]

   b). If yes, how many trainings ____________________

Section Two: Physical Capital

1. a). Does the household own land

   Yes [1]; No [2]

   b). If yes, what's the land size in acres __________________

2. Does the household own a permanent house (house made atleast from burnt bricks and roofed with iron sheets); Yes [1], No [2]

3. Does the household own the following transportation facilities; Bicycle, Oxcart, Motor bike, Motor car
    i. If owning none of the above [1],
    ii. Owning at least one of the above [2],
    iii. Owning at least two [3],
    iv. Owning at least three [4],
    v. Owning all the four facilities [5]
4. Does the household own the following agricultural implements; Sprayers, Plough or Ridger, Treadle pump or motorised pump, Oxcart
    i. If owning none of the above categories [1],
    ii. Owning at least one of the above [2],
    iii. Owning at least two [3],
    iv. Owning at least three [4],
    v. Owning all the four implements [5]

Section Three: Financial Capital

1. Do you save money; Yes [1], No [2]
2. What is the household's cash savings levels for the past 12 months (As already captured in objective 1, section 6:1)
3. a). Did the household had personal access to credit/loans for the past 12 months; Yes [1], No [2]

    b). If yes, how much ________________________

Section Four: Social Capital

1. Does the household participate in community governance (through membership of any decentralised or governance structures like VDC,ADC, VNRMC etc); yes [1], No [2]
2. Number of groups which the household belongs to in the community _______________
3. How do you rate your level of participation in social activities like funerals, wedding, cultural events etc

   Very active [1], Moderately active [2], Rarely participates [3], Does not participate at all [4]
4. What is the household wealth ranking status in the perspective of that respective community (Be extra careful in providing definition of being poor or rich in the community perspective); Ultra poor [1], Moderately poor [2], Better off [3], Rich [4]
5. Whats the level of your household acceptance by the community in which you are

   Fully accepted [1], Somewhat accepted [2], Partially accepted [3], Not accepted at all

Section Five: Natural Capital

1. Land ownership (as already captured in section 2:1, under physical capital)
2. Does the household own a woodlot; Yes [1], No [2]
3. Does the community have a community woodlot; Yes [1], No [2]
4. If yes, does the household have access and management rights to a communal woodlot; Yes [1], No [2]
5. Household’s level of management and access to natural resources (forests/lake/river); Highest level [1], medium level [2], Low level [3], Not involved and no access [4]

Section Six: Livelihoods Strategies

1. How many livelihood strategies does the household rely on for its survival

   ____

2. Name them

   ____

   ____

   ____

End of Interview

Appendix 2: Interview Guide for Data Collection for Objective 3

Research topic: Assessing The Impact of Village Savings and Loans Associations (VSLAs) on Food Security and Sustainable Livelihoods of Rural Communities in TA Kilipula in Karonga District

Focus Group Discussion to be employed in collecting data on objective 3 using this interview guide

Objective 3: To investigate the main uses of savings pay-outs and loans among VSLA members in TA Kilipula in Karonga District

Section 1: Group Profile Information

1. Name of the group ________________________________
2. Year it was formed________________________________
3. Village ____
4. Membership status: Initial members at the start of the group ________________, current membership and disaggregated by gender _________________________

Section 2: Investments from VSLA Loans and Payouts

1. How do most members use VSLA Loan money for? ____
____
____
____
____

2. How do most members use VSLA Pay-out money at the end of the VSLA cycle for?

____

____

____

____

____

____

Section 3: Business Activities

1. What businesses activities do members engage into?

____

____

____

____

____

Section 4: Impact of VSLAs on the Communities and Challenges Associated With VSLAs

1. What impact are VSLAs making on your livelihoods

____

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2. What challenges do the VSLA groups face?

____

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End of Interviews

Annex 1: University Letter of Introduction

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28 September, 2018

To Whom It May Concern

LETTER OF INTRODUCTION - ISAAC MKANDAWIRE

Mr Isaac Mkandawire (MScTCD/19/16) is a Master Degree student pursuing Transformative Community Development Programme in the Department of AgriSciences under the Faculty of Environmental Sciences at Mzuzu University. I serve as his supervisor in a very interesting and relevant topic for his thesis titled **"Assessing the Effect of Village Savings and Loans Associations (VSLAs) on Food Security and Sustainable Livelihoods of Rural Communities in TA Kilipula in Karonga District"**.

Obviously, in order to undertake such a study it is essential that **Isaac** has access to information that will provide him with as much background knowledge as possible. Therefore, I hereby ask you to be so kind as to help him in acquiring the assistance that he may need during his fieldwork. Any assistance accorded to the student towards the success of the research project is much appreciated.

It is within the mandate of the university that the student acts in accordance with research ethics and cord of conduct of which the student is bound to comply.

We thank you for your support towards Isaac's fieldwork.

DEAN
2018 -09- 28

Associate Professor Wales Singini
RESEARCH SUPERVISOR