



**Nonfarm Activities and Rural Livelihood in
Tanzania**

The case of Njombe District

A Research Paper presented by:

SHAMY CHAMICHA

Tanzania

In partial fulfilment of the requirements for obtaining the degree of

MASTER OF ARTS IN DEVELOPMENT STUDIES

Major:

Economics of Development

(ECD)

Members of the Examining Committee:

Supervisor: **Lorenzo Pellegrini**

Reader: **Robert Sparrow**

The Hague, The Netherlands

November, 2015

Disclaimer:

This document represents part of the author's study programme while at the Institute of Social Studies. The views stated therein are those of the author and not necessarily those of the Institute.

Inquiries:

Postal address:

Institute of Social Studies
P.O. Box 29776
2502 LT The Hague
The Netherlands

Location:

Kortenaerkade 12
2518 AX The Hague
The Netherlands

Telephone: +31 70 426 0460

Fax: +31 70 426 0799

Acknowledgement

My profound appreciation goes to God the almighty for great things he has done, I can only be grateful as I testify of His grace throughout the course of this Master's Program.

Special thanks goes to my supervisor Dr. Lorenzo Pellegrini who gave me an unlimited support, guidance and patiently advice that shape my thoughts throughout the research paper process. You are an inspirational supervisor and I shall always cherish working with you. Prof. Robert Sparrow, thank you for being my second reader, you have guided and given me constructive and critical comments which was important inputs in this paper.

I am grateful to the Njombe District Council and villagers at Matembwe and Lupembe villages as well as key informants at PRIDE, Njombe Community Bank and Lupembe and Vijana SACCOS for being part of this research. I would have nothing to write if you hadn't taken the time to share your time, experiences and expertise.

I would like also to thank the ISS particularly ECD major teaching and supporting staff for the warm welcome, support and amazing year. For sure, you have created a good learning environment that made me to grow in wisdom and knowledge in the different session within and outside the Major. In addition to this, my ISS colleagues, it has been a great time interacting both in and out of the lectures. You have each touched my heart and lives in many ways that made my stay in the Netherlands unforgettable lifetime experience.

Thanks to NUFFIC for their full financial support that has facilitated me to pursue this MA and my stay here in the Netherlands, I will be grateful forever.

Lastly but most important, my family starting from my Mum, Sisters, brothers, Nephews and Niece (Derice) for the unwavering support and the heart to let me fly and follow my dreams. Thank you so much for being in my life, and this is for us.

Contents

<i>Acknowledgement</i>	<i>iii</i>
<i>List of Tables</i>	<i>vi</i>
<i>List of Figures</i>	<i>vii</i>
<i>List of Maps</i>	<i>vii</i>
<i>List of Appendices</i>	<i>vii</i>
<i>List of Acronyms</i>	<i>viii</i>
<i>Abstract</i>	<i>ix</i>
Chapter 1 Introduction	1
1.1 Background of the Study	1
1.2 Statement of the Problem	3
1.3 Objective of the Study	4
1.3.1 Main objective	4
1.3.2 Specific Objectives	4
1.4 Research Question	4
1.4.1 Main Research Question	4
1.4.2 Sub-Questions	5
1.5 Research Hypotheses	5
1.6 Organization of the Study	5
1.7 Challenges Encountered	6
Chapter 2 Literature Review	7
2.1 Introduction	7
2.2 Household Economics in Rural Areas	7
2.3 Rural Livelihood Diversification	8
2.4 Rural Nonfarm Economic Activities	9
2.5 Conceptual Framework for Analysing Nonfarm Activities and Rural Livelihood Relationships	11
2.6 Factors Influencing Rural Household Engagement in Nonfarm Activities	12
2.7 The Relationship between rural nonfarm and farm activities	15
2.8 The Significance of Nonfarm Activities in Rural livelihood	17
2.9 National Efforts in Promoting Rural Nonfarm Activities	19
Chapter 3 Methodology	20
3.1 Study Area	20
3.2 Sampling Size and Sampling Techniques	21
3.2.1 Sample Size	21

3.2.2 Sampling Techniques	21
3.3 Data Sources	22
3.3.1 Primary Data	22
3.3.2 Secondary Data	23
3.4 Data collection Method	23
3.4.1 Structured Interviews	23
3.4.2 Unstructured Interviews	24
3.4.3 Observation	24
3.5 Data Analysis	24
Chapter 4 Findings	25
4.1 Demographic Structure of the Surveyed Population	25
4.2 Household Size in the Surveyed Population	26
4.3 Level of Education of the Surveyed Population	26
4.4 Size and Method of Land Possession by Households	28
4.4.1 Size of Land Possessed by Rural Household	28
4.4.2 Methods of land Acquisition by Rural households	28
4.5 Economic Activities Performed In the Studded Area	29
4.6 Main Farming Tools Used in the Study Area	30
4.7 Characteristics of Nonfarm Economic Activities in the Study Villages	31
4.7.1 Categories of Nonfarm Activities	31
4.7.2 Factors Prompting Household Involvement in Nonfarm Activities	33
4.7.3 Timeframe of Nonfarm Activities operations	36
4.7.4 Main Sources of Capital for Starting Nonfarm Activities	37
4.7.5 Education Level of Household's Heads Engaging in Nonfarm Activities	39
4.7.6 Limitations on the Growth of Nonfarm Activities	41
4.8 Relationship between rural Nonfarm and farm activities	43
4.9 Significance of Nonfarm Activities in Rural livelihood	44
4.9.1 Income Obtained from Rural Nonfarm Activities	44
4.9.2 Proportion of Nonfarm Activities Earnings in Total Household Income	46
4.9.3 Share of Earning from Nonfarm Activities by household income Level	47
4.9.4 Uses of Income from Rural Nonfarm Activities	48
Chapter 5 Conclusion	49
References	51
Appendices	58

List of Tables

Table1:	Demographic Structure of the Study Area
Table 2:	Household Size by village
Table 3:	Education Level of Study Population (15 Years and Above) by Village
Table 4:	Size of Land owned by household by village
Table 5:	Methods of Household's Land Possession by Village
Table 6:	Major Economic Activities in Surveyed Households by Village
Table 7:	Main Types of Farming Tools Used in the Study Area
Table 8:	Main Types of Nonfarm Activity by Villages
Table 9:	Driving Factors that enable Rural Households to Engage in Nonfarm Activities by Village
Table 10:	Operation timeframe of nonfarm Activity by villages
Table 11:	Main Source of Capital for Starting Nonfarm Activities
Table 12:	Level of Education of Heads of Households Engaging in Nonfarm Activities
Table 13:	Constraints on the Growth of Rural Nonfarm Activities
Table 14:	Annual Household Income from Nonfarm Activities by Villages
Table 15:	Proportion of Nonfarm Activities Earnings in Total Household Income by villages
Table 16:	Share of Earning from Nonfarm Activities by household income Level

List of Figures

- Figure 1.1 Conceptual Framework for Nonfarm Activities and Rural Livelihood
- Figure 1.2 Chart indicating Relationship between Land Acquisitions by Level of Education

List of Maps

- Map 1.1 A map showing the location of Njombe District within Tanzania

List of Appendices

- Appendix I Household Survey Questionnaire
- Appendix II Some of Nonfarm and Farm Activities Conducted in the Study Area

List of Acronyms

AHM	Agriculture Household Model
DC	District Council
FAO	Food and Agriculture Organization (of the United Nations)
HDI	Herfindahl index
MSMES	Micro, Small and Medium Enterprises Survey
NBS	National Bureau of Statistics
NGO	Non-governmental organization
PRIDE	Promotion of Rural Initiative and Development Enterprises Limited
RALG	Regional Administration and Local Government
RNFA	Rural Nonfarm Activities
SACCOs	Saving and Credit Cooperative Societies
SIDO	Small Industries Development Organization
SMEs	Small and medium sized enterprises
TZS	Tanzanian Shillings
URT	United Republic of Tanzania
VEO	Village Executive Officer
WEO	Ward Executive Officer

Abstract

This research paper studied the relationship between nonfarm activities and rural livelihood in Tanzania. More specifically the study examined the driving factors that enable the rural household to participate in the nonfarm activities, the linkage between nonfarm and farm activities and identified the significance of nonfarm activities as a livelihood strategy. A field survey was conducted at Lupembe and Matembwe villages in Njombe Districts whereby a total of 100 households 50 in each village were administered. Unstructured interview was also used exclusively to the interview that involves the key informants in the study area.

The findings of the study were as follows, First; the household's decision to engage in nonfarm activities largely influenced by push and pull factors. The push factors included; low income from agriculture activities, land inadequacy, seasonality of agriculture activities and minimizing risk from poor agriculture performance. The pull factor involved; increased opportunities in the nonfarm sector and the growth of timber industry. Second; there were a strong relationship between farm and nonfarm sector especially in the flow of capital and consumption between the two sectors. This findings shows that the income obtained from agriculture activities were used as a start-up capital in nonfarm activities and the income obtained from nonfarm activities were used to finance farm activities. Third; the study found that there is a significant share of the income from nonfarm activities to the overall household income. In addition the income obtained from nonfarm activities are used to purchase different household needs such as purchases of nonfarm inputs, paying school fees, buying food, consumer consumption, buying home assets, paying house rent and health expenses. The study concluded that rural nonfarm activities are significant livelihood strategy for the rural households.

Relevance to Development Studies

Rural household in Tanzania rely on farm activities as their main livelihood strategy. However, this repeatedly result into income insecurity. The income insecurity is largely attributed by increased risk from poor agriculture performance caused by increased cost of production and the recently climate change. In this regard, rural household reliance on nonfarm activities as their alternative livelihood strategy and source of income is inevitable. An analysis to examine the significance of nonfarm activities in rural livelihood in Tanzania is needed to examine the ways to increase the income of rural household and level their consumption.

Keywords

Rural nonfarm activities, Livelihood, Livelihood Diversification and Household

Chapter 1 Introduction

1.1 Background of the Study

This research paper examined the relationship between nonfarm activities and rural livelihood in Njombe District, Tanzania. More specifically the study examined the driving factors that enable the rural household to participate in the nonfarm activities. Furthermore, the study explored the linkage between nonfarm and farm activities and the significance of nonfarm activities as a livelihood strategy of rural households in Njombe district.

Before jumping into thorough review on nonfarm activities and rural livelihood, defining what we mean by both “nonfarm” and “livelihood” is important. Nonfarm activities include all those economic activity which does not involves crop and live-stock production such as construction, services, manufacturing, commerce and mining (Haggblade et al. 1989). Currently there is a confusion between the terms “non-farm” and “off-farm”. Correctly, the term “nonfarm” does not have the same meaning with that of “off-farm”. The term off-farm generally refers to all those activities performed away from the farm owned by the household (Gordon and Craig 2001). Ellis (2000) defines off-farm completely as agricultural labouring on other household’s land, thus household referred in this sense should not considered the same as that participating in nonfarm activities. However, Off-farm will be referred as nonfarm activity only if that household labour which are taken away from the household own farm is engaged in non-farm activities.

On the other hand the concepts of “livelihood,” is described as the means or activities that households or individuals choose to undertake by using the available opportunities in order to achieve their livelihood goals (Hussein and Nelson 1998). This comprises both farm and nonfarm activities which are undertaken by households to help securing the necessities of life and may be based on productive activities and investments choices. In this study livelihood is described as a set of activities or initiatives undertaken by rural household or individuals which are predetermined by their capabilities and existing opportunities in deriving the financial reward and improved their standard of living (Assan 2014).

Agriculture continue to be the main dependent for livelihood of the majority of the rural households in most African countries (Aikaeli 2010). However, in recent decades rural household's livelihood is observed to be derived from various sources than exclusively depend on agriculture which was the previously assumed as the only source of income in rural areas (Gordon and Craig 2001). Different studies describes the increase in proportion of rural households who have partly already engaged in the rural nonfarm activities. IFAD (2010) reported that, typically between 50.0 and 60.0 percent of the household in Asia and Latin America are participating in nonfarm activities, whereas in sub-Saharan Africa between 25.0 and 50.0 percent of households are participating in the nonfarm sector.

In Tanzania, rural household considers the nonfarm activities as an important livelihood strategy in both economic and social terms. Empirical evidence confirmed that rural nonfarm activities are positively affects household wellbeing in Tanzania (Loening and Lane 2007). An analysis of changes in rural consumption recommends that changes from agricultural to non-agricultural activities plays a vital role in poverty reduction (World Bank 2008). Similarly, (Ellis and Mdoe 2003) in their study on livelihoods and poverty in rural Tanzania observed that nonfarm activities offer an important direction out of poverty.

The participation of rural household in nonfarm activities in Tanzania is triggered by several reasons. First, reduced productivity of agriculture crops caused by rise in the cost of production has reduced dependence on agriculture activities as the main generator of cash income to rural household (Word Bank 2007). Second, scarcity of the land due to the increased population and decline in soil fertility due to continuous use without replacement (United Republic of Tanzania 2005). Third, failure and delay to pay peasant appropriate prices, which is attributed much by the determinants of world market into agricultural prices resulted from integration of local farm-based economy into the world economy (Madulu 1998, Mung'ong'o 2000).

The predominant nonfarm activities undertaken in rural Tanzania varies from one place to another depending on the available economic activities (Loening and Lane 2007). However, there are nonfarm income generating activities which are common conducted in most of rural Tanzania. This activities include; retail shops, milling machines, bars, the sale of cooked food, tea rooms, tailoring, vegetable sales,

bicycle repairs, butchery and fish trading (Madulu 1998). The income generated from these nonfarm activities are used to cover the health service expense, paying school fees, buying clothes and food purchases (Katega and Lifuliro 2014). On the other hand, the income earned from nonfarm activities is further invested in agriculture especially in the purchases of farming tools like ox-ploughs and hand hoes, purchasing of farming inputs like fertilizer, pesticides and acquiring agricultural labours (Mung'ong'o 2000).

Despite the increase in participation of rural household into nonfarm sector, engaging into nonfarm activities in rural areas is observed to be not very helpful due to the fact that the activities are small scaled and household are mostly engaging in the sector as coping strategy (Loening, Lane 2007). These activities are also scattered and the rural household face constraints such as lack of working capital and entrepreneurship skills when starting or running the nonfarm activities (United Republic of Tanzania 2005). In this regard, purposely actions are required to turn the nonfarm activities into sustainable source of livelihood.

Furthermore, it is observed that, there is little support by the government in terms of policy and finance which are important in promoting the nonfarm economic activities in rural areas (Katega and Lifuliro 2014). In Tanzania there is no any ministry, regional or local authorities which are responsible for promoting the sector as a result the sector receive limited support from the donor and Non-Government Organizations (NGO's) (Loening and Lane 2007, Katega and Lifuliro 2014).

It is on the above grounds, this study was conducted to examine the importance of nonfarm activities as a livelihood strategy the rural household can depend in order to secure the necessities of their life. The observation from this study can help the policy makers and development practitioners to provide the required support in the nonfarm sector.

1.2 Statement of the Problem

In Tanzania, the nonfarm sector is considered to be a significant source of income and a means for poverty alleviation in rural households, though agriculture continue to be the predominant livelihood activity among rural households (Katega and Lifuliro 2014). According to (Word Bank 2007, URT 2010) there is 65.0 percent of the rural household that obtain income by participating in both agriculture and non-

agriculture activities and the proportion of participating in non-agriculture activities is increasing tremendously. According to the 2007/08 National Sample Census of Agricultural indicates that, the rural household has started to shift from farm to nonfarm activities. This is evidenced by the increase in proportion of rural household who engage themselves into nonfarm activities from 3.0 percent to 29.0 percent for the period of 2003 to 2008. On the other hand there is a decline in the proportion of the rural household who engaged in fulltime on farm from 68.0 percent to 48.0 percent during the same period of time (National Bureau of Statistics (URT) 2012).

Following the increased participation of rural household in nonfarm activities, this research was intended to study the relationship between nonfarm and the livelihood of rural Tanzania. The study was conducted by looking the driving factors that enable the rural household to participate in the nonfarm activities, examined the relationship between rural nonfarm and farm activities, and determined the significant of nonfarm activities as a livelihood strategy to the rural households in Njombe district.

1.3 Objective of the Study

1.3.1 Main objective

The main objective of the study was to examine the relationship between non-farm activities and the livelihood of rural household in Tanzania.

1.3.2 Specific Objectives

The specific objective of the study was;

- i. To examine the driving factors that enable the rural household participation in the nonfarm activities
- ii. To examine the relationship between rural nonfarm and farm activities
- iii. To determine the significant of nonfarm activities as a livelihood strategy of the rural households

1.4 Research Question

1.4.1 Main Research Question

What is the relationship between nonfarm activities and the livelihood of rural Tanzania?

1.4.2 Sub-Questions

The specific question was;

- i. What are the driving factors that enable the rural household to participate in the nonfarm activities?
- ii. What are the relationship between rural nonfarm and farm activities?
- iii. What is the significance of nonfarm activities as a livelihood strategy of rural households?

1.5 Research Hypotheses

The research was intended to test three hypotheses on rural nonfarm activities as follows:

- i. The engagement of rural households in nonfarm activities is influenced by changes in economic characteristics.
- ii. There is a relationship between nonfarm and farm activities.
- iii. Nonfarm activities are the significance livelihood strategy to the rural households.

1.6 Organization of the Study

This research paper comprises of five chapters. Chapter one of this research comprises of Introduction which includes the background of the study, the problem statement, the research objectives, the research questions, Organisation of the study and challenge encountered in conducting this study.

Chapter two comprises the analysis of literatures reviews which researched on the nonfarm activities and rural livelihood. This chapter includes introduction of the chapter, the review of household economics in rural areas, rural livelihood diversification, rural nonfarm activities, analysis of the driving factors which influencing rural household to engage in nonfarm activities, the relationship between rural nonfarm and farm activities, the significance of nonfarm activities to the rural livelihood and national efforts in promoting rural nonfarm activities. Chapter three comprises of research methodology which involves; the study area, sampling size and sampling techniques, data source, data collection methods and data analysis.

Chapter four involves findings which comprises demographic characteristics of the study population, education levels, land possession, economic activities of the

surveyed population, characteristics of nonfarm activities, diving factors for household participation in the nonfarm sector, time frame of nonfarm activities operations, main source of capital for starting nonfarm activities, the relationship between non-farm and farm activities and significance of nonfarm activities to rural livelihood. Chapter five involves the conclusion drawn from the findings.

1.7 Challenges Encountered

A major challenge encountered while conducting the study was misperception of the research by respondent. This is because of the little knowledge on re-search by most of the people in the rural areas. Also most respondents who are engaged in non-farm activities where operating the activities informally, thus they scared to provide much information about their enterprises. Furthermore, the timing of data collection were coincide with the with general election campaigns in the country. In this regard, most of the respondent in the two villages relates the whole process of data collection with the ongoing election campaign in the country. Finally, weather condition was not conducive (very cold) for researcher during the process of data collection. This is because in May up to September Njombe region and the whole southern highland region experiences a very cold weather.

Chapter 2 Literature Review

2.1 Introduction

This chapter discusses the theoretical literature review that related with the relationship between nonfarm and rural livelihood. The chapter indicates the empirical analysis of the literature and findings from previous studies on the relationship of nonfarm activities and the livelihood of rural households. Specifically, the detailed literature review is based on how previous studies discuss on the driving factors that enable rural households to engage in nonfarm sector, the relationship between farm and nonfarm activities and the significance of nonfarm activities as the livelihood strategy to the rural households.

2.2 Household Economics in Rural Areas

Several development objectives concentrates on the households' or individual's welfare. Policies are targeted to rise the proportions of households or individuals who fights poverty, who are free from hunger and diseases, or who can catch advantageous employment (Alderman et al. 1995). In developing countries many people makes at least portion of their livelihood by working in their own enterprises and they are frequently consume a least part of their productive activity's output, whereas household labour is the regularly dependable factor of production for their enterprises (Bardhan and Udry 1999). The economic characteristics of the household in most developing countries is that, household or individuals simultaneous determines production that is output level, factors and technology to be employed, and consumption that is labor supply and commodity demand (Bardhan and Udry 1999).

In order to understand household behaviour, focus should be in Agriculture Household Models (AHM) which are made in order to capture the household decisions on production and consumption in a theoretically consistent way which facilitates empirical evaluation of policy interventions (Bardhan and Udry 1999). Agriculture household model is important in examining the "spillover" effect of the government policies in the other sector of the rural population, since the principal impact of these policies is on agriculture household's income than the landless household or those household engaged in nonfarm activities (Singh et al. 1986).

In the Basic Model, the household is expected to maximize a utility function for any production cycle subject to a cash income constraints (Singh et al. 1986). In this regard when family labour exceeds the total labour required, the exceeded labour will be transferred to the off-farm activities (Bardhan and Udry 1999). Family labor exceed total labour due to land shortage as result of family size, thus (Quang Tran 2012) in his study on A Review on the Link between Nonfarm Activities, Land and Rural Livelihoods in Vietnam and Developing Countries, indicates that shortage of land may be a significant factor that trigger participation of rural farm households into the nonfarm activities and hence improves the rural household's welfare. Similarly, (Barrett et al. 2001) indicates that in the absence of well-functioning land markets, a rural household gifted with much labour but relatively little land possession will, naturally provide some labour to their household's farm, and some labour will be hired out for off-farm wage employment. However, (Quang Tran 2012) elaborate further that, the scenario can be applicable in the in areas with the accessibility of nonfarm job opportunities to a greater proportion of the population and will be less or not applicable to the rural household in the area with less nonfarm job opportunities. In contrast, (Gordon and Craig 2001) observes that access to natural resources particularly land by poor people triggers their participation into the nonfarm sector.

Subsequently, (Singh et al. 1986) indicates that analysts are allowed by basic model which encompasses the demand of total labour and the family labour supply, to discover the policy effect on the hired labour demand and hereafter on the market of the rural labour and the landless household's incomes. Likewise, the analyst are further facilitated by the basic model which also incorporate consumer behaviour, to discover the effect of profit increases for the farm households on the demand for products and services supplied by nonfarm rural households (Anderson and Leiserson 1980).

2.3 Rural Livelihood Diversification

Ellis (2000), defines rural livelihood diversification as the process in which rural households create an additionally diverse set of economic activities and assets for their survival and improving the standard of living. Focusing on livelihood diversification essentially infers to a process of broadening the livelihood strategies out of purely agricultural and livestock production in both farm and nonfarm activities that are

conducted in order to generate supplementary income (Smith, Gordon et al. 2001). Furthermore, rural livelihood diversification involves the production of other goods and service in both farm and nonfarm activities and engaging in waged labour in either agriculture and non-agriculture activities or establishing self-own small enterprise (Hussein, Nelson 1998).

As said earlier rural livelihood diversification involves diversification of both agriculture and non-agriculture activities. Based on agriculture diversification, it entails the addition of other crops or other agriculture enterprises at the household's farm activities (Pingali, Rosegrant 1995). It was observed that, the most significant objectives for undertaking agricultural diversification activity is to minimise the general production risk by choosing a mix of crops with low or no relationship in their productivity (Pellegrini, Tasciotti 2014). Furthermore, According to (Ellis 2000) diversification of agriculture activities is considered as risk management tool to the household located in developing and transitional economies as it can enable them to overcome unforeseen circumstances and hence level their consumption. In additional, Crop diversification can be looked as a technique for increasing income from farm activities, employment generation, poverty alleviation and protect soil and water resources and can act as a significant strategy to overcome a number of disasters the developing world face (Pellegrini, Tasciotti 2014).

Furthermore, rural livelihood diversification is also considered as a means of reducing or increasing income inequality among rural households. According to (Ellis 2000), rural livelihood diversification may have balance or unbalanced results on rural incomes and wealth. The equalization of rural income occurs when the rural livelihood diversification outcome favours the poor rural household by increasing their income levels, whereas the unbalanced results on the rural income occurs when a share of income obtained as result of diversification favours the wealthier households than the poor (Ellis 2000). For the case of this study the focus will be on nonfarm activities as a livelihood strategy to the rural households.

2.4 Rural Nonfarm Economic Activities

The growth of rural economy involves more than agricultural growth. Empirical evidence from Africa as a whole indicates that the rural nonfarm activities are sub-

stantial and growing over time (Lanjouw et al. 2001). This is evidenced by the survey based study undertaken by (Reardon 1997) which involves about 100 farm-households from 1970s–1990s, he found that, on average 42.0 percent of household income share is from nonfarm activities in Africa, followed by 40.0 percent in Latin America, and 32.0 percent in Asia.

According to (National Bureau of Statistics (URT) 2013), about 70.4 percent of the population in Tanzania live in rural areas. In this regard, performance of rural economy is considered as the exclusive determinants towards the changes in the national poverty head count (Word Bank 2007). Empirical evidence indicates that the growth of rural nonfarm economic activities as a livelihood strategy has a solid impact on overall rural household welfare (Haggblade et al. 2010). In Tanzania, rural areas has persistently reported to have highest rate of poverty, where 33.3 percent of the rural population falls below the basic needs poverty line as compared to 4.2 percent in Dar es Salaam and 21.7 in other urban areas (National Bureau of Statistics (URT) 2013).

In this regard, nonfarm sector is considered a dependable livelihood strategy for the rural household in Tanzania as the sector includes about 1.2 million rural enterprises (Word Bank 2007). According to (National Bureau of Statistics (URT). 2009), observed an increasingly reliance of rural income into nonfarm activities. The data from Tanzania household survey 2007 indicates that, there is an increase in the proportion of the household income generated from nonfarm sector from 17.8 percent to 27.3 for the period of 2000/01 to 2007. Furthermore, the survey observed rural areas to have a drop in the proportion of household income obtained from farm sources to 50.0 percent in 2007 from 60.0 percent in 2000/01.

Despite the growth in the income share from nonfarm activities, agriculture remains to be main employer of population living in the rural areas in most developing countries. This is due to the fact that the traditional insight of rural households in developing counties has focused much on farming than in nonfarm activities (Word Bank 2007). Furthermore, the perception of various policy debates to mostly relate rural income with income generated from farm activities caused the tendency of most policy and decision makers interested in rural development to focus almost solely on farming activities (Katega and Lifuliro 2014). However due to the increase scarcity of land caused by the population growth, the expansion of nonfarm activities is inevita-

ble as a means to ensure household's income security in the rural areas (Lanjouw and Shariff 2002).

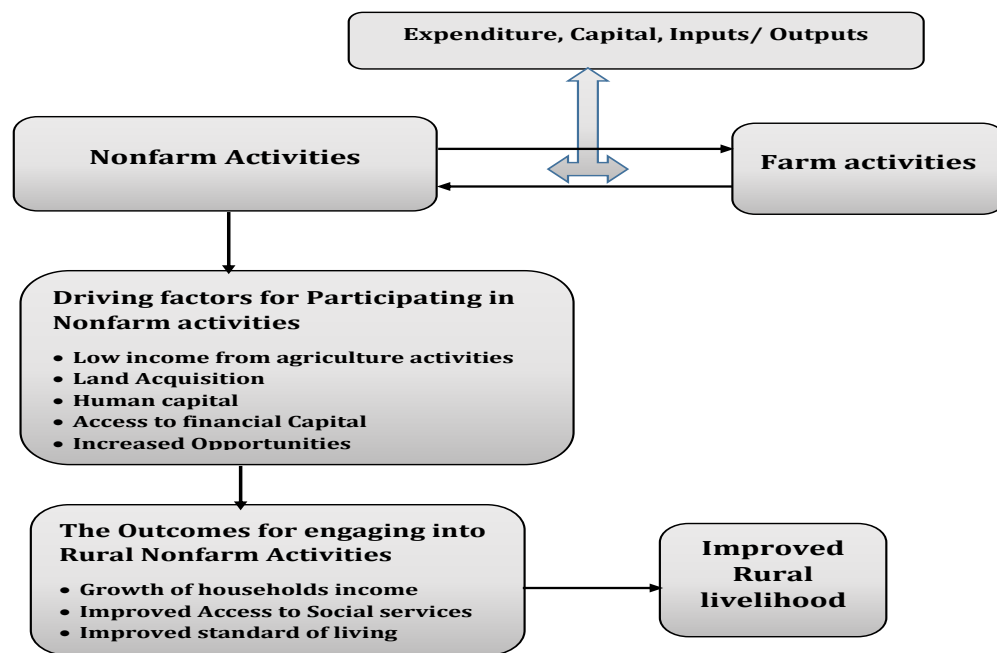
There are crucial evidence that nonfarm activities provides employment to a significant proportion of rural households, and income generated from nonfarm activities is useful for both farm and other rural households who are not engaged in both activities (Gordon and Craig 2001). Other studies shows that most of the typical rural household in Africa has at least one member engaged in nonfarm sector (Reardon 1997). Furthermore, (Reardon et al. 2007) note that nonfarm sector in the rural areas comprises of approximately 25.0 percent of full-time rural employment.

In this regard, determining the means in which such nonfarm activities can be promoted is necessary, taking into consideration the significance of nonfarm activities as a means through which rural household can depend for their livelihood improvement and stay out of poverty (Katega and Lifuliro 2014, IFAD 2010).

2.5 Conceptual Framework for Analysing Nonfarm Activities and Rural Livelihood Relationships

Several rural households decided to engage in nonfarm activities as a strategy of raising their income (Assan 2014). Other studies shows that adaptation of rural household livelihood diversification strategies is based on efforts to create supplementary or alternative enterprises that can manage to recover from shocks and stress (Barrett et al. 2001, Dary and Kuunibe 2012, Ellis 2000, Ebaidalla 2014). In addition, within the context of a sustainable livelihood framework, the success of livelihood diversification is determined by the policy and institutions within which it operates (Lanjouw and Lanjouw 2001). Furthermore the sustainability of livelihood strategies of rural household is determines by the access, the use and establishment of different type of resources (Katega and Lifuliro 2014). The said resources encompasses different stocks of capital asset such as financial, human and physical capital that can be applied either direct or indirectly in livelihood generation (Ellis 2000). The application of these resources is vital for rural household participation in nonfarm sector which results into the improvement of rural livelihood.

Figure 1.1: Conceptual Framework for Nonfarm Activities and Rural Livelihood



Source; Based on (Assan 2014, Barrett, Reardon et al. 2001)

2.6 Factors Influencing Rural Household Engagement in Non-farm Activities

There are several factors that influences rural livelihood to engage in nonfarm activities. Before discussing those factors, it is important to discuss the indicators that shows the level of rural household's participation in nonfarm activities. Various literatures recommend several indicator for measuring household income diversification which includes; income based mechanism, time based approach and Herfindahl index (HDI) (Davis 2003). According to (Barrett et al. 2001) income based mechanism is based on the assumption that, the higher the share of nonfarm income to the total household income the higher the level of participation to the nonfarm sector. In this regard, the share of income from nonfarm activities is used as a measure of the level of household participation in nonfarm activities. Furthermore, according to (Nghiem 2010) time based approach focuses on the assumption that the ratio of time spent in farm or nonfarm activities can determine the level of rural household participation in nonfarm sector. Finally, others scholars such as (Dary and Kuunibe 2012) uses Herfindahl index (HDI) to measure the level of household participation in the nonfarm income generating activities. In this assumption the higher the HDI, the higher the level of household participation in nonfarm activities.

Rural household are influenced by different motives to participate in nonfarm activities. These factors that influences rural household can be grouped in two groups which are “push factors” and “pull factors”. According (Barrett et al. 2001) push factors is driven by inadequate capacity to bear risk in the presence of shocks that generates strong motives for the household to engage in nonfarm activities. Whereas, pull factors is driven by the increasing in opportunities which are created by the growth of commerce or nearness to the town. Push factors commonly involves; diminishing return from agricultural production, land shortage and reaction to crisis, while pull factors involves increased in business opportunities which triggered specialisation based on comparative advantages (Reardon et al. 2000).

Furthermore, Lay et al. (2007) indicates survival-led or opportunity-led as the major reasons for rural household who were traditionally engaged completely in farming activities to undertake income diversification strategies. According to (Reardon and Taylor 1996) Survival led diversification strategies occurred when the rural households with insufficient agricultural asset endowment forced themselves to engage in nonfarm activities as a second livelihood strategy in order to ensure their survival. According to (Assan 2014) rural households adopt livelihood strategies and attempt to engage in nonfarm activities in order to handle the stress and shocks caused by failure in agriculture sector. On the other hand, the opportunity-led strategies involves the wealthier rural household with sufficient asset endowments that decide to diversify their livelihood in order to increase returns on their assets (Ferreira and Lanjouw 2001).

In additional, other authors observed that, decision for household to engage in nonfarm sector is determined by various factor which can be based on incentives and limitations (Aikaeli 2010, Dary and Kuunibe 2012). According to (Atamanov and Van den Berg 2011) in their study on “Microeconomic analysis of rural nonfarm activities in the Kyrgyz Republic: What determines participation and returns?” point that, incentives involves the variability and levels of commodity/ crops price and wages in both farm and nonfarm sector. The study further indicates that, the difference in price among household’s commodity may be caused by access to market, production techniques and availability of raw materials. Whereas constraints has been related to the ability the households have to participate in the nonfarm sector. These abilities are based into household assets, level of education, household size, age, gender and struc-

ture. Furthermore, (Reardon et al. 1998) argued the decision by household involvement in nonfarm activities is determined by the incentive offered in nonfarm activities and the capacity of the household to participate in it.

The difference in the casual labourer's wages between farm and nonfarm sector is also considered as a significant factor towards household participation in the nonfarm activities (Coppard 2001). According to (Fisher et al. 1997) indicates that, casual labourers in rural India have been diverging from working in agriculture to non-agricultural activities. The reported reason for this diversion is the difference between male casual labourer's wages which is 40.0 percent higher in the rural nonfarm sector than in rural farm sector and 20.0 percent higher for women. In Africa, rural farm household are referred to as major suppliers of labour to the rural nonfarm sector due to the scarcity of land and low payment from agriculture employment (Reardon 1997).

As cited by (Reardon 1997) in western Kenya (Francis and Hoddinott 1993) indicates that the reduced earnings in agriculture sector, and emergence of attractive prospects in local nonfarm labour markets in the 1960s-70s results in the reduction in allocation of both labour and capital in the agriculture sector over the decades.

Gender roles is another factor that determines the household participation in the nonfarm activities. Previous studies showed that religion, tradition and other social customs are considered to have a long constraints towards women participation in the nonfarm sector (Gordon and Craig 2001). Further studies also indicates that, the activities which encompasses men are more restricted compared to those that involves women (Dary and Kuunibe 2012, Ellis 2000). In this regard, the situation hinders the accessibility of nonfarm activities to women. Traditionally and socially there are activities which are strictly performed by men and women are occasionally if completely not found in performing those activities. These activities involves mining, blacksmithing, masonry, grinding mill operation, carpentry, tractor operation, wood carving, and mechanical repairs (Dary and Kuunibe 2012). Like wisely, the same study further point out the activities which are performed much by women and really or not completely performed by men. These activities are; food vending, local beer brewing, mats and basket weaving and pottery.

Level of education also determine the household participation in the nonfarm sector. Dary and Kuunibe (2012) found that, the probability of engaging in nonfarm

economic activities increases as number of years of schooling increases. This is to say the more the education the person attains the more the likelihood that person will participate in the nonfarm activities. In addition, well-educated persons in rural population are considered to have a potential access to a number of nonfarm employment available, and they also have higher probability of starting up their own nonfarm enterprises (Gordon and Craig 2001, Ebaidalla 2014).

In addition, other studies indicate that, credit constraints and withdrawal of the government's subsidies on farm inputs, facilitates livelihood diversification to most of the rural households (Assan 2014, Davis and Bezemer 2004). The rural household decide to participate into nonfarm activities as alternative livelihood strategy in order to obtain additional income to finance and intensify their farm activities (Hussein and Nelson 1998).

In Tanzania reasons for engaging in nonfarm activity differ between households and geographical location. This is evidenced in the study on Economic Policy and Rural Poverty in Tanzania: A survey of three regions (Mwanza, Ruvuma and Dodoma) conducted by (Rutasitara 2002). The study observed that, 40.0 percent of the interviewed households were engaged in nonfarm activities for the period of six years between 1992 and 1998. Among this observed households that are participating in nonfarm sector, 42.9 percent observed to engage in nonfarm activities because the profitability they considered to be obtained in nonfarm activities, other 35.7 percent of the surveyed household was observed to engage in nonfarm activities because of the seasonality of agriculture activities, the reduction of income from agriculture activities was reported by 7.1 percent of the household who are engaging in nonfarm sector. On the other hand 79.7 percent of the household who did not engaged themselves in nonfarm sector mentioned lack of initial capital and equipment as the major limitations. And the other respondent in the same category indicates the declining return from nonfarm activities and lack of market for their goods as the constraints.

2.7 The Relationship between rural nonfarm and farm activities

Farm and Nonfarm activities are considered to have a closely relationship and they depend on each other for their growth (Lanjouw et al. 2001). The relationship between farm and nonfarm sector can be classified into categories namely, upstream and downstream relationship. According to (Katega and Lifuliro 2014) upstream rela-

tionship occurred when there is an increase in the activities of the nonfarm sector as the result of the growth of farm sector. This means that, the growth of farm sector may result to the increase in productivity of nonfarm sector in order to increase the supply of farm inputs and services to farmers. On the hand the linkage is downstream when the growth of farm sector result to the increase in the use farm products as an inputs in the nonfarm sector (Katega and Lifuliro 2014).

In order to understand further the nature of linkage between farm and nonfarm sector, it is important to study in detail the provided evidence on the linkage strength between the two sectors in rural Africa (Haggblade et al. 1989). The evidence on the relationship strength between farm and nonfarm sector is provided by the five linkage factors, of which two among those are in factor market and three are in product market. According to (Haggblade et al. 1989) the factor market relationship comprises capital and labour flow between farm and nonfarm sector, whereas product market involves production relationship from agriculture to rural input traders, processing and distribution of agricultural products and expenditure linkage caused by the increase in farm income.

Labour flow linkage between farm and nonfarm activities occurs as a result of seasonality of the two sector, particularly agriculture (Reardon et al. 1994). Seasonal flow of labour between agriculture and non-agriculture sector is determined much by the calendar of agriculture activities. It is estimated that between 20-40 percent of the rural labour force in sub-Saharan Africa engaged in both farm and nonfarm activities, this range signifies the substantial amount of labour movement between rural farm and nonfarm sector (Haggblade et al. 1989).

Furthermore, capital flow between the two sectors is another evidence of relationship between farm and nonfarm sectors. However, most studies indicates that capital outflow from farm to nonfarm activities is larger than that from nonfarm to farm (Haggblade et al. 1989). Definitely, there are many facts on aggregates which indicates the shifting out of agriculture surpluses consistently through fiscal, crop pricing and trade policies (Loening and Lane 2007, IFAD 2010, Madulu 1998, Wangwe and Lwakatare 2004, Fan et al. 2000). In additional, other evidence suggests that, a number of private investors in sub-Saharan Africa have shifting out their investment fund or profit from agriculture to non-agricultural activities (Haggblade et al. 1989).

Another facts from Kenya and Sierra Leone recommends that, the surpluses from agriculture contributes between 15.0 and 40.0 percent of investment funds in non-farm sector, similarly the surpluses obtained from nonfarm activities was also found to supply funds for agricultural investment (Kitching 1977). On the other hand, the evidence from the survey of 16 farm management in East Africa, observed a vital role played by nonfarm earnings in the purchases of productive agriculture equipment's and assets particularly land (Haggblade et al. 1989). Further evidence have been indicated by (Gordon and Craig 2001) that, income from nonfarm activities may be used as a capital investment in the farm activities by rural household's and acquire modern farm inputs.

Furthermore, the literatures indicates the presence of expenditure linkages between farm and nonfarm activities. The expenditure linkage between the two sectors occurs when income obtained from the two sector are used in the purchases of the other sector's product (Ndalahwa 1998). This means, income generated from farm activities are used in the consumption of the products from nonfarm activities, and the income obtained from nonfarm activities spent on the output from farm activities.

In Tanzania, Farm activities has portrayed a substantial linkage with the nonfarm activities. Katega and Lifuliro (2014) found that, on average the proportion of income (24 percent) obtained from nonfarm activities were used in purchases of farm inputs in rural Tanzania.

2.8 The Significance of Nonfarm Activities in Rural livelihood

Nonfarm farm activities is considered as a dependable rural livelihood to the majority of rural household due to its comparative income contribution to the total income of the rural household (Reardon 1997). Nonfarm sector has a potential contribution in the livelihood of rural household as it provides alternative source of rural income generating activities which improves distribution of income, contributes to the growth of rural economy and strengthen poverty alleviation efforts (Mduma and Wobst 2005). Different studies in sub-Saharan Africa also agreed that nonfarm sector have substantial contribution in the average rural household income and revealed a significant growth (Barrett et al. 2001, Ellis and Mdoe 2003, Reardon 1997).

Current debates on rural livelihoods are not clear on whether the shift into non-farm activities leads to sustainable accumulation of income and asset or a despairing

livelihood strategy within rural household or individuals (Assan 2014). However, there are perception that diversification into the nonfarm activities is an accumulation strategy which results to the enhancement of income and asset (Ellis 2000). In southern Ghana a number of small farmers have engaging in nonfarm activities as a means of obtaining alternative incomes in order to invest in their agricultural enterprises (Assan 2014). Furthermore, nonfarm activities are described by (Leechor 1994) that it has replaced agriculture activities as the main livelihood strategy in the rural household and hence consider as the main source of income in rural Ghana.

Nonfarm activities are considered to play a crucial role in the distribution of income particularly in the rural areas. The literature on rural nonfarm economy by (Ahmed 1996) provides hypothetical presentation that, nonfarm activities decreases the Gini coefficient of the total income in a particular rural area and therefore reduces income inequality in rural areas. This is evidenced further by (De Janvry et al. 2005) in the study on 'The Role of Non-Farm Incomes in Reducing Rural Poverty and Inequality in China' which recommended that engaging in nonfarm activities decreases income inequality. The same study observed that the Gini coefficient of the total income of the household would escalate by 36.0 percent in the absence of nonfarm incomes. However, despite the significance of nonfarm income, there are still some of uncertainties on whether rural nonfarm activities is a significant engine to reduce income inequality in rural areas. Other authors present the evidence that in most of the rural areas, it is not necessarily for any of the nonfarm employment sources to reduce rural income inequality (Reardon et al. 2000).

Nonfarm income activities have significant importance in rural areas as it facilitates rural house hold with food security (Reardon et al. 1998). According to (Ndaluhwa 1998) income generated from nonfarm activities was found to be used much in the purchases of food for feeding the household, purchases of consumer goods, health expenses, transport expanses and purchases of farm inputs. In additional, (Reardon et al. 2000) indicates that, involvement in nonfarm activities raises significantly the average standard of living.

2.9 National Efforts in Promoting Rural Nonfarm Activities

Tanzania recognise the role played by nonfarm activities to the livelihood of rural households and individuals. In view of this there are number of effort taken by the government of Tanzania and other development partners in order to make nonfarm activities a viable source of livelihoods to the rural inhabitant (United Republic of Tanzania 2005). The effort undertaken is through the establishment of various national policies which offer the framework within which rural nonfarm activities functions. These policy include The Small and Medium Enterprise (SMEs) Development Policy which launched in 2003 and The National Micro Finance Policy which was launched in May 2000.

Another effort which has been taken by the government of Tanzania is the establishment of National Financial Inclusion Framework 2014 – 2016. The working definition for this framework is “regular use of financial services, through payment infrastructures to manage cash flows and mitigate shocks, which are delivered by formal providers through a range of appropriate services with dignity and fairness” (Tanzania National Council for Financial Inclusion 2013). The framework recognizes the role played by Small and Medium Enterprises (SME’s) including nonfarm activities in the economic growth in any developing country like Tanzania. According to the (Ministry of Industry and Trade (URT) 2012) in the 2012 Micro, Small and Medium Enterprises Survey (MSME Survey) observed that, 12 percent MSMEs use informal financial services. Furthermore, the same survey indicates that the largest proportion, approximately 70.0 percent are totally excluded by financial service which limits their performance and expansions. With this framework financial services will be accessible to the majority of population in the rural areas. This will facilitates the rural household to have easy access to finance through credits or remittances which is important for starting up or expanding their nonfarm activities.

Chapter 3 Methodology

3.1 Study Area

The study was conducted in Lupembwe and Matembwe villages which are located in Njombe district between July and August, 2015. The district is part of Njombe region's four districts which is found in the Southern Highlands Zone of Tanzania. Njombe district has a total surface area of 7,227.0 Square kilometers which is 28.9 percent of the whole region most of which is plain land with very few hills and valleys. The area comprises of natural and forest plantations, arable land and areas for settlements (URT Prime Minister's Office (RALG) 2013). The same report shows that, Njombe district is bordered Mufindi DC (Iringa region) in the North, Morogoro region in the East, Ruvuma region on the South west and Wangingómbe district council to the west. The headquarters is located in Njombe Township along the Njombe-Songea road.

Map 1.1: A map showing the location of Njombe District within Tanzania



Source: Tanzania Location Map

The population of Njombe District Council is 85,747 (United Republic of Tanzania 2013). According to (Kadunge and Timbula 2011) agriculture is the main economic activity of the district which contributes about more than 75.0 percent of the

district economy and employing over 70.0 percent of the working population. Unfortunately peasant farmers are the ones who dominated the sector. Other economic activities involves timbering, livestock keeping, fishing and trading.

The selection of Njombe district as the study area was based on the facts that Njombe districts is characterized by peasants who are affected by the increased cost of agricultural production especially fertilizers and low prices of agricultural outputs especially tea and maize (Mung'ong'o 1998); thus, they consider nonfarm activities as alternative livelihood strategy to maintain the household's income security.

3.2 Sampling Size and Sampling Techniques

3.2.1 Sample Size

The sampling element in this research was the household and the main focus population was the households that are engaging in nonfarm activities. A total of 100 households were interviewed 50 in each village, which is Lupembe and Matebwe villages. The interviewed households involves those which are engaging and not engaging in the nonfarm activities.

3.2.2 Sampling Techniques

A purposive sampling technique was applied to indicate the two study areas, Lupembe and Matembwe villages. A purposive sampling method was used in order to involve respondent (households/individuals) with more knowledge and experience on the research topic (Scheyvens and Storey 2003). In this regard, the interviewed sample was selected based on the availability of a substantial number nonfarm activities and the geographical location of the villages. Deliberations with officials of the District Council showed that these two villages had endowed with sufficient number of nonfarm activities when equated with other villages in the districts. Moreover, the two villages are located along the main murram road that connect Njombe district and Ifakara District in Morogoro region. In this regard, the two village have an easy transport to and from the market that influence the household participation to the nonfarm sector.

In additional, the two village are located in the ward headquarters. Matembwe village is the head quarter of Matembwe ward and Lupembe village is the head quarter

of Lupembe ward. Being the head quarter of their respective wards, these two villages acts as a business centres (Market) of their respective ward and other villages in these wards depends on this such market centre for selling and consumption of variety of consumer and non-consumer goods. Presences of factories in this two village also stimulates the number of nonfarm activities in the two villages. There is Ikanga Tea Factory in Lupembe village and Matembwe Village Company which deals with the production of chicks and poultry feeds. The presence these factories stimulates the growth of nonfarm activities in the two villages and thus considered the study areas for this research.

The key informants in the surveyed area was also selected by using purposive sampling method. The key informants includes public officials at Njombe regional and District Council, ward and village levels. The method was also used to indicate the representatives from microfinance institutions which are operating in the study area. In this case, the interview was conducted to Njombe Community Bank and Promotion of Rural Initiative and Development Enterprises (PRIDE) Tanzania. The interview was also conducted the Saving and Credit Cooperative Society (SACCOS) which are operating in the two villages, these are Lupembe SACCOS and Vijana SACCOS.

3.3 Data Sources

Primary and secondary data were the main source of data in this study. A field survey was conducted in order to obtain the required information in the study area. The primary and secondary source of data involves information from the rural household and key informants and extensive literature reviews from deferent report and publications that relates to nonfarm activities and rural livelihood in Njombe District Council. Details on the primary and secondary source of data are as explained in the following sub-section.

3.3.1 Primary Data

Primary data was collected in order to get the actual information on nonfarm economic activities in the surveyed area. In order to obtain these data, household interview was conducted using structured questionnaire, whereas the interviews with the key informants was administered using unstructured questionnaire. The interview was

conducted to rural households that are participating in nonfarm activities and those who are not participating in nonfarm activities.

In addition, the interview with the key informant involved all those people in the study areas who have enough information with the nonfarm farm activities. The key informant interviewed involves; Njombe district council officials from the department of planning, cooperation and trade. Others involves Ward Executive Officers (WEO) in Matembwe and Lupembe Villages, Village Executive Officers (VEO) in both Lepembe and Matembwe Village. Generally, the primary data helps me to fill the gap that I found during literature review on nonfarm activities and rural livelihood.

3.3.2 Secondary Data

Secondary data was obtained through extensive literature review from various local and international reports and publications. The literature reviews helped me to achieve an ideas about how other researchers wrote on nonfarm activities and rural livelihood. The reports and publication was obtained from the government authorities such as The Regional Commissioner's Office at Njombe, Njombe District Council, Small Industries Development Organisation (SIDO) and other private sectors that are engaging in promoting the rural nonfarm activities. The documents which were reviewed involves, journals, books, official reports and previous researches.

3.4 Data collection Method

A number of techniques was used by researcher in order to acquire the required information which is reliable and valuable. The data collection technique applied in this study involves interview with the household and key informant through the use of structured and unstructured questionnaire; and observation.

3.4.1 Structured Interviews

According to (May 1997) "structure interview is a data collection method whereby each person in the study area is asked question in the same way so that any difference between answers are the assumed to be real ones and not the result of the interview situation itself". The criteria for selecting this method was based on its permission to comparability among responses and it is uniform to all respondent. For the case of my study questionnaire was developed based on the one used by (Katega,

Lifuliro 2014) in their study on Rural Nonfarm and Poverty Alleviation in Tanzania (See appendix 1). The structure interview was used in order to obtain the required information which complied with the objective of my study. The interview was conducted to a calculated number of respondent (household) who are participating in farm or nonfarm activities in order to get their views concerned with the situation of nonfarm activities in connection with the rural livelihood in the study area. The structured questionnaire had three part of which part one involves sociodemographic characteristics of study population, part two involves; economic activities of the study area; and part three involves household asset ownership.

3.4.2 Unstructured Interviews

Unstructured interview was used exclusively to the interview that involves the key informants. The criteria for selecting this method was based on the two fact. First, the method permits the respondents to express their views flexibly, second; the method was found to be well applicable to the key informant because of their greater knowledge on nonfarm economic activities in the study area. The key informant interviewed include officials at the Regional Commissioner's Office at Njombe, Njombe District Council, Small Industries Development Organization (SIDO) and other private sectors that are engaging in promoting the rural nonfarm activities.

3.4.3 Observation

Observation was another method used in the study area. The method was used much in obtaining information concerned with asset ownership by the household and the quality of the main house owned by the household. The method was also used to confirm the availability of nonfarm activities in the study areas as recommended by district council officials.

3.5 Data Analysis

The process of data compilation, editing, classifying and inserting in excel was conducted after field work. The quantitative and qualitative data was analysed and presented by using percentage and frequency in table and graphs.

Chapter 4 Findings

4.1 Demographic Structure of the Surveyed Population

The demographic structure of the surveyed population are useful variables in the analysis of nonfarm activities (Katega and Lifuliro 2014). The observation from this study indicates that, the population for Lupembe village was 209 (96 males and 113 females) and Matembwe village was 231 (107 males and 124 females). This makes a total surveyed population of 440 individuals, of which 203 were males and 237 were females. The findings further indicates that, in both surveyed villages the majority of population (35.6 percent) are young below 15 age compared with those in other categories. This can be triggered to some extent with the higher fertility levels in rural areas of Tanzania but mostly are due to the fact that the younger age groups are not affected much by rural to urban migration. In addition, the survey showed that, there is outstanding concentration of the people in the age category of 15 to 44 which is reported by more than half 55.1 of the whole population. On the other hand the findings indicates there are few people with old age in both Lupembe and Matembwe villages. The proportion of age group in 45-59 and 60+ was reported at 6.4 and 2.9 percent respectively.

Table1: Demographic Structure of the Study Area

Ages	Villages								
	Lupembe			Matembwe			Total		
	Male (n=96)	Female (n=113)	Total (n=209)	Male (n=107)	Female (n=124)	Total (n=231)	Male (n=203)	Female (n=237)	Total (n=440)
<15	37.5	38.1	37.8	34.6	32.3	33.4	36.0	35.2	35.6
15 - 29	34.4	32.7	33.6	30.8	31.5	31.1	32.6	32.1	32.4
30 - 44	22.9	24.8	23.8	20.6	22.6	21.6	21.7	23.7	22.7
45 - 59	3.1	1.8	2.4	11.2	9.7	10.4	7.2	5.7	6.4
60+	2.1	2.7	2.4	2.8	4.0	3.4	2.4	3.3	2.9

Source: Field survey, August, 2015

As stated above, the analysis shows that the share of female in the population is higher compared with that of males. The discussion with the respondents and district and village officers indicates that, males are much involved in rural to urban migration as compared to females. This findings are similar with those found in other part of Tanzania by (Ndalhwa 1998) which indicates that rural to urban migration involves more male than females.

4.2 Household Size in the Surveyed Population

A household is defined as a group of people who live together, share the same domestic economy and eat together in the same house (Barrett et al. 2001, As-san 2014, Cline-Cole and Robson 2005, Bardhan and Udry 1999). For the case of this study household size is defined as the number of people who regularly found in the same household and they belong to the head of that household (Mung'ong'o 2000). The findings from the study area indicates 50.5 percent of the surveyed household had 5–6 members. This household proportion is about half of the whole surveyed households. Further, 23.0 percent of the surveyed households had 3–4 members, and households with 7–8 members was observed at 10.0 percent. On the other hand, the average household size of the surveyed population was 4.6 persons per household as indicated in the table below.

Table 2: Household Size by village

Household Size	Villages		Total (n=100)
	Lupembe (n=50) % of Household	Matembwe (n=50) % of Household	
1-2	8.0	13.0	10.5
3-4	24.0	22.0	23.0
5-6	52.0	49.0	50.5
7-8	9.0	11.0	10.0
9+	7.0	5.0	6.0

Source: Field survey, August, 2015

In this study the household size analysis was conducted based on its crucial importance in determining the features of supply of labour in the economic activities the household is participating in the study areas. In additional, the analysis of the household size provides the important information on the household's production arrangement and the level of consumption, pressure on the available land which determines the household's decision to engage in off-farm or nonfarm activities (Bardhan and Udry 1999, Reardon 1997).

4.3 Level of Education of the Surveyed Population

Plato and Aristotle states that education pays a central role to the moral execution of individuals and the welfare of the society in which they live (Kamerman 2000). Education achievement is considered as the necessary tool for individual to acquire knowledge which is vital for adapting to environment within which he or she lives

(Ministry of Education and Culture (URT) 1995). Education is also considered to affect the household capacity to take the advantages of nonfarm employment opportunities in rural areas (Zhang et al. 2002).

The analysis on the education level in this study was focusing the members of the surveyed population aged 15 years and above. In view of this, the observation indicates that, 54.8 percent of the population in the surveyed villages had attained primary education, 28.5 percent had attained secondary education and 17.3 percent was found to attained college education as illustrated in the table 3 below. The College education category includes all member of the surveyed population who had a chance to attend college training whether direct from primary school or after secondary school. The college education involves vocational training college, teaching college and university level.

Table 3: Education Level of the Surveyed Population (15 Years and Above) by Village

Education level	Villages		Total (n=284)
	Lupembe (n=130) % of Study Population	Matembwe (n=154) % of Study Population	
Primary education	56.9	52.6	54.8
Secondary education	28.5	27.9	28.2
College Education	14.6	19.5	17.0

Source: Field survey, August, 2015

The discussion with the respondent indicates that the low share of population with college education is attributed much by the absence of vocational training college in the study area. In additional, the discussion with the respondent shows that, the level of education has positive effect to the participations of individual to the nonfarm activities. This was evidenced by the individual with college education to participate in nonfarm activities of their professions such as teachers, car and motorcycle repairs and nurses. The findings from this study complies with those by (Ebaidalla 2014) which indicates, education is a key determinant for engaging in the nonfarm activities.

4.4 Size and Method of Land Possession by Households

4.4.1 *Size of Land Possessed by Rural Household*

Land acquired by the rural household influences their participation into nonfarm activities. In the study area land was found to be the major asset owned by the households. The study observed that most of the households (26.0 percent) in Lupembe and Matembwe villages owned land size of between 5-6 acres. Whereas other household was found to own the land size between 3–4 acres (21.0 percent) and 7-8 acres (20 percent) as indicated in the table 4 below.

Table 4: Size of Land owned by household by village

Land Size (Acre)	Villages		Total (n=100)
	Lupembe (n=50) % Household	Matembwe (n=50) % Household	
1-2	18.0	12.0	15.0
3-4	26.0	16.0	21.0
5-6	22.0	30.0	26.0
7-8	18.0	22.0	20.0
9+	16.0	20.0	18.0

Source: Field survey, August, 2015

4.4.2 *Methods of land Acquisition by Rural households*

Local land tenure system is a common system of acquiring and owning land in most of sub-Saharan rural areas (Barrett et al. 2001). The survey in the two villages indicated the common system used for acquiring and owning land was tradition land tenure whereby inheritance was observed to be the major means of land acquisition and possession by 69.0 percent. Other households was observed to possess land by buying (45.0 percent), renting (12.0 percent) and other means such as clearing of no man's land and borrowing from relatives or neighbours was reported at 9.0 percent.

Table 5: Methods of Household's Land Possession by Village

Land acquisition method	Villages		Total (n=100)
	Lupembe (n=50)	Matembwe (n=50)	
	% Household	% Household	
Inheritance	72.0	66.0	69.0
Purchasing	36.0	54.0	45.0
Renting	14.0	10.0	12.0
Others	12.0	6.0	9.0

Note: Totals is above 100 percent because of multiple responses.

Source: Field survey, August, 2015

4.5 Economic Activities Performed In the Studded Area

The analysis of the economic activities performed in the study area is vital for identifying the type of economic activities conducted in the study area. The analysis of economic activities in the study area is important in understanding the strength of nonfarm activities based on the source of capital and inputs between different economic activities undertaken by rural households (Ndalawa 1998, Davis and Bezemer 2004, Haggblade et al. 1989). This study observed that, the major economic activity undertaken by the majority of household in the surveyed villages were crop farming (91.0 percent). Other economic activities conducted was nonfarm activities which was mentioned by 73.0 percent of the respondent and 21.0 percent of the household indicated to engage in livestock keeping. Other income generating activities which involves bee keeping, fishing and labouring, were observed to be engaged by only 5.0 percent of the households as indicated in the table 6 below.

Table 6: Major Economic Activities in Surveyed Households by Village

Major Economic Activity	Villages		Total (n=100)
	Lupembe (n=50)	Matembwe (n=50)	
	% Household	% Household	
Crop farming	94.0	88.0	91.0
Nonfarm activity	68.0	78.0	73.0
Livestock keeping	24.0	18.0	21.0
Others	4.0	6.0	5.0

Note: Totals is above 100 percent because of multiple responses.

Source: Field survey, August, 2015

Discussion with respondents indicated that, the predominantly type of livestock kept in the two villages includes cattle, goats, pig and poultry particularly chicken. The discussion indicates that livestock keeping had both social and economic importance in their daily life. The livestock kept was observed to be used as a source of income and insurance and paying the bride price. In addition, the livestock keeping as eco-

conomic activities was observed to have a direct relationship with the agriculture activities. The study observed that cattle were used in land cultivation and for the supply of manure in the household farms. Furthermore, the discussion exposed the presence of poultry production industry in Matembwe village influences the household to engage in livestock keeping.

4.6 Main Farming Tools Used in the Study Area

As indicated earlier in the section 4.5 above, majority of household (91.0) in the study area engaged agriculture activities. The discussion with the respondents in both villages shows that, the farming activities conducted by the household are small-scaled which depend on rainfall for production of food and cash crops. Food crops grown in the study areas involves; maize, beans, Irish potatoes and peas. Cash crops cultivated for income generation included tea and pine trees. In the study area especially Lupembe village, a number of tea farms and Plantation which owned by some households and Igombora Tea Factory were observed. Also a number of small and large forest plantation was observed in the study area.

Traditional farming technology was observed to be used by majority of households in both villages. Most of the household (78.0 percent) in the surveyed villages were observed to use hand-hoes as their main farming tool. Other farming tools which was observed to be used by few household involves; ox-plough (16.0 percent) and tractor (6.0 percent) as indicated in the table 7 below. The findings from this study is almost similar with that found by (Katega and Lifuliro 2014) which shows the hand-hoe was used by most households (77.8 per cent) as their main tool for land cultivation.

Table 7: Main Types of Farming Tools Used in the Study Area

Land Cultivation Tool	Villages		Total (n=100)
	Lupembe (n=50) % Household	Matembwe (n=50) % Household	
Hand-hoe	82.0	74.0	78.0
Ox-plough	14.0	18.0	16.0
Tractor	4.0	8.0	6.0

Source: Field survey, August, 2015

Discussion with the respondent in the surveyed villages shows that, the continuing application of the hand-hoe as major tool of land cultivation is based on its affordability compared with other tools. In addition, the steepness of the land in Lupembe village hinders application of tractors in land cultivation, thus makes the households to have no choice than using the hand-hoe mostly for their farming activities. Furthermore, the price of hiring the ox-plough or tractor is expensive and not affordable to the majority of the households in the surveyed villages. Hiring the ox-plough costed the household a total of T'ZS 50,000/= per acre. Whereas, hiring a tractor is much expensive as it costs the household a total T'ZS 80,000/= to T'ZS 150,000/= per acre depends on the distance to the farm from the village center. This findings match with findings of the study conducted by (Ndalahwa 1998) that shows the continuing dominance of hand-hoe as a tool in land cultivation, although the application of ox-ploughs and tractors are also growing.

Further, the discussion revealed that the continuing dominance of the hand-hoe as major tool for cultivation is a major reason for low agriculture productivity to most the households engaging in farming activities in the surveyed area. Other reported reason was the increased cost and late arrival to the village of farm inputs particularly the chemical fertilizers (Phosphate) commonly known as “Mbolea ya Minjingu”.

4.7 Characteristics of Nonfarm Economic Activities in the Study Villages

4.7.1 *Categories of Nonfarm Activities*

For analytical purposes analysing the types of nonfarm activities is vital in order to discover the features of nonfarm activities in the study area. As indicated in table 6 in section 4.5 above, 73.0 percent of the households in the surveyed villages practiced different nonfarm activities as their income generating activity. The analysis of the data by village shows that 78.0 percent of the household in Matembwe village are engaged in nonfarm activities whereas 68.0 percent of the household practicing nonfarm activities are in Lupembe village. The reasons that makes Matembwe village to have higher share of household participating in nonfarm activities than Lupembe is that, Matembwe has higher business opportunities than Lupembe. Presence of Mission hospital and Matembwe Village Company which together increased the number of customers. In addition, Matembwe is a timber trade centre which attracts different

people from different area who come either to sell or buy timber. The undertaken nonfarm activities in the two villages can be divided into three main groups, namely; trade (commercial), production and services related nonfarm activities.

Trade or commercial related activities were found to be carried out by almost half (47.9 percent) of the household engaged in nonfarm activities in the surveyed two villages. The activities under this category involves operation of retail shop, butchery, sale of stationary, medical store and selling of variety of consumer goods at the village market. The analysis of the data by village indicates that 48.7 percent of the household engaged in nonfarm activities in Matembwe village are practicing trade related non-farm activities as compared to 47.1 percent in Lupembe Village. The discussion with the respondent indicates that, the business under this category has high and low season. The high season is during the holiday season such as Christmas and Easter and also during the harvesting of agricultural crops in July.

Furthermore, more than one-quarter (31.6 percent) of the household engaged in nonfarm sector in the surveyed village were observed to practice production-related activities. This category include activities like local brewing, brickmaking, carpentry, masonry, timbering and welding. The analysis of the data by village indicates that 32.4 percent of the household engaged in nonfarm activities in Lupembe village are practicing production-related activities whereas 30.8 percent are in Matembwe Village. Discussion with respondents especially those engaged in carpentry and bricks making indicates that, the business depends much on the performance construction sector. And in both villages' people starts constructing in summer season than in rain season. The carpentry industry provides doors, windows, and timber for roofing to the housing construction activities.

On the other hand, service-related activities were found to be engaged in by 20.6 percent of households carrying out nonfarm activities. Activities under this category of nonfarm activities consists operation of milling machine, garage for vehicle and motorcycle repairs, hair cutting/ dressing saloon, bicycle repair, shoe repair, grocery, guest houses and operation of restaurants (tea rooms). The analysis of the data by village indicates a slightly difference in the proportion of the household engaged in service-related activities in both villages as indicated in the table below. The reported reason for small participation of households in this category compared to the other

two category were, the nonfarm activities under this category requires large capital, high business and technical skills compared with the other two category. As indicated before in section 4.3 that there are lesser people in the study population with college level of education. The proportion of distribution of all three categories among the household by village is as shown in the table 8 below.

Table 8: Main Types of Nonfarm Activity by Villages

Type of nonfarm activities	Villages		Total (n=73)
	Lupembe (n=34)	Matembwe (n=39)	
	% Household	% Household	
Trade (Commercial)	47.1	48.7	47.9
Production	32.4	30.8	31.6
Service	20.6	20.5	20.6

Source: Field survey, August, 2015

Further discussion with the respondent showed that, there is a positive linkage between the three categories. This is evidenced by the growth of service sector especially transport such motorcycle transport services (boda boda) that facilitates the growth of trade sector especially the selling of petrol in two villages. The result from this study is almost similar with those found by (Ndalahwa 1998) which shows the types on nonfarm activities the household is participating in Kwimba district are business (6.6 percent), mining (7.8 percent) and service provision (0.3 percent).

4.7.2 Factors Prompting Household Involvement in Nonfarm Activities

The involvement of rural households in nonfarm activities is triggered by several motives. In most cases decision for households to participate in nonfarm activities is determined by various factor which can be based on incentives and limitations (Aikaeli 2010, Dary and Kuunibe 2012). According to (Barrett et al. 2001), decision towards rural household to participate in nonfarm activities is based on the pull or push motives. Engagement in nonfarm sector by push motives occurs when rural household choose to engage in the sector in response to economic distress while by push is in response of the economic opportunities. In this study it was observed that, households in the surveyed area decide to engage in nonfarm activities because of both push and pull motives. The reported push motives involves; Low income from agriculture activities, Land inadequacy and Minimize risk from poor agriculture perfor-

mance, while pull motives involves increased business opportunities and the growth of timber industry in the two village.

The analysis indicated that both push and pull motives has significance influence towards household's decision to engage in nonfarm activities in the case study. This evidenced by 87.5 percent of the surveyed household adopt to carryout nonfarm activities because of the low income obtained from agriculture activities. 30.3 percent reported land inadequacy as the driving factor, whereas minimization of risk due to poor agriculture performance was reported at 40.2 percent. Increased business opportunities in the nonfarm sector which have better returns relative to the farm sector was reported at 56.0 percent and other factors was reported at 68. 3 percent as indicated in the table 9 below.

Table 9: Driving Factors that enable Rural Households to Engage in Nonfarm Activities by Village

Reported Factors for engaging in Nonfarm Activities	Villages		Total (n=73)
	Lupembe (n=34) % Household	Matembwe (n=39) % Household	
Low income from agriculture activities	85.3	89.7	87.5
Land inadequacy	32.4	28.2	30.3
Minimize risk from poor agriculture performance	47.1	33.3	40.2
Increased business opportunities	52.9	59.0	56.0
Others	64.7	71.8	68.3

Note: Totals is above 100 percent because of multiple responses.

Source: Field survey, August, 2015

The discussion with the respondent revealed that, pull factors which involves increased business opportunities is largely attributed by the growth of timbering industry and geographical location of the two villages which are located along the main murram road that connects Njombe and Ifakara districts. Furthermore, the establishment of Ikanga Tea Factory at Lupembe village and Matembwe Village Company increases business opportunities in the study area. On the other hand, the reported push factors was attributed much by the increase in the cost of agriculture inputs and decline in soil fertility due to continuous use without replacing. In additional failure or delay to pay the tea farmers appropriate price was also reported as the factor that

push the rural households participating in nonfarm sector. The observation is consistent with that observed by (Assan 2014, Davis and Bezemer 2004) which shows the increase in the cost of farm inputs as a result of withdrawal of the government's subsidies on farm inputs, facilitates livelihood diversification to most of the rural households.

This findings to some extent matched with the finding from survey conducted elsewhere in Tanzania by (Rutasitara 2002). The findings from the survey indicates that, 42.9 percent of the households were observed to engage in nonfarm activities because the profitability they considered to be obtained in nonfarm activities, other 35.7 percent of the surveyed household was observed to engage in nonfarm activities because of the seasonality of agriculture activities, the reduction of income from agriculture activities was reported by 7.1 percent of the households who are engaging in nonfarm sector.

For the case of this study, the other factors which involves the growth of tree farming for timber and electric poles in the surveyed villages was observed to be significant reason for rural household to engage in nonfarm activities. This reasons was mention by a significant number (68.3 percent) of the surveyed household. During the survey, most of the household were observed to undertake crop diversification which include food and cash crops (tea); and tree farming. The trees farming emerged following the growth of timber trading in the study area and the decrease in income from food and tea farming. The growth of timber trading results to the increase in the market and price of trees as compared to other crops which attracts the rural households in the study area to engage in that farming. The observation match with that observed by (Pellegrini and Tasciotti 2014) which indicates crop diversification can be looked as a technique for increasing income from farm activities, employment generation, poverty alleviation and a solution to overcome a number of disasters the developing world face.

It was further observed that, this crop diversification by the households which results to the booming of tree farming contributes much in the household participation in the nonfarm sector. Two major reasons that cause tree farming to trigger household's participation in nonfarm activities were mentioned. First; tree farming occupies the land which were used for cultivation of food and cash crops particular

tea, in this regards the household decide to engage in nonfarm activities in order to respond with shortage of food and income from cash crops. Second; Tree farming requires 8 years before harvesting for electric poles and 14 years for timber, in view of this households in the surveyed areas decide to engage in nonfarm activities in order to generate income for their survival in the period before harvesting the planted trees.

4.7.3 *Timeframe of Nonfarm Activities operations*

Timeframe on nonfarm activities can determine the level of participation into nonfarm activities in a certain area. This can captured by time based approach which determine the level on household income diversification. According to (Nghiem 2010) time based approach focuses on the assumption that the ratio of time spent in on farm or nonfarm activities can determine the level of rural household's participation into nonfarm sector. In additional, studying the operation duration of the nonfarm activities offers the historical information on the growth and sustainability of nonfarm activities in a specific area (Davis and Bezemer 2004, Ebaidalla 2014).

The current study in the surveyed villages indicates that most of the nonfarm activities came into existence between four and thirteen years ago. The analysis of the data indicates that about 26.4 percent of the nonfarm activities in the surveyed area were quite new as they had been in existence for 3 years or less. The analysis further shows the variation between the two villages; that is 32.4 percent in lupembe village were newly established; ie they had 3 years or less into operation compared with 26.4 percent of Matembwe village at the same years of operation as indicated in the table 10 below.

Table 10: Operation timeframe of nonfarm Activity by villages

Duration of Operation of Nonfarm activity	Villages		Total (n=73)
	Lupembe (n=34)	Matembwe (n=39)	
	% of Household	% of Household	
≤3	32.4	20.5	26.4
4-8	41.2	30.8	36.0
9-13	20.6	41.0	30.8
14+	5.9	7.7	6.8

Source: Field survey, August, 2015

During discussion with respondent it was reported that, the variation in the duration of nonfarm operation have been triggered by several factors; these factors involves, First; increased pressure on land due to the growth of tree farming which occupies the large part of the land. Second; Increase population due the increase in the immigration of people from different areas who are employed in the timbering industry, Ikanga Tea factory and Matebwe village Company which is factory for poultry production. Third; The rose in demand for goods and services produced by nonfarm sector triggered by the increased number of customers in the study area. In additional growth in demand in the of nonfarm products is attributed much emergence of timber traders from different who frequently visited the study area for timber purchases.

4.7.4 Main Sources of Capital for Starting Nonfarm Activities

Rural households obtain start-up capital from different sources for establishing nonfarm activities (Wangwe and Lwakatare 2004, Word Bank 2007). The study revealed that, the households in the study villages had variety source of initial capital for starting nonfarm activity. The analysis of data shows that, 82.4 percent of household in the surveyed villages obtain start-up capital from own savings and borrowing from family or friend. Based on the discussion with respondent, own savings involves income from, crop sales and tree sales for timber. Respondents also reported other sources which involves credit from microfinance (9.4 percent), private money lenders (2.8 percent) and 5.5 percent from other sources indicated in the table 11 below. Other sources includes remittances and selling of assets and livestock's.

Table 11: Main Source of Capital for Starting Nonfarm Activities

Reported Main Source of Capital	Villages		Total (n=73)
	Lupembe (n=34)	Matembwe (n=39)	
	% Household	% Household	
Own saving	64.7	66.7	65.7
Credit from microfinance	5.9	12.8	9.4
Borrowed from family or friends	20.6	12.8	16.7
Private money lenders	2.9	2.6	2.8
Others	5.9	5.1	5.5

Source: Field survey, August, 2015

The findings from this study match with findings by (Haggblade et al. 1989) in the study on sub-Saharan Africa which describes the large accumulation of evidence that suggests a number of private investors in sub-Saharan Africa have shifting out their investment fund or profit from agriculture to nonfarm activities. In addition, this finds less similar with fact by (Kitching 1977) on Kenya and Sierra Leone that recommends the surpluses from agriculture contributes between 15 and 40 percent of investment funds in nonfarm sector, similarly the surpluses obtained from nonfarm activities was also found to supply funds for agricultural investment.

Discussion with the respondent shows that, acquiring initial capital to the household in the two villages was a frequently constraints towards participation in the non-farm activities. The reported reasons was mainly the insufficient of funds of most of the rural household from their common occupations especially agriculture and livestock keeping. In addition the discussion revealed that, most rural household in the surveyed areas has a limited access to credit from the microfinance operated in the two villages. The reported reason was insufficient awareness on the role played by credit in their business and bad success stories from those who default in repaying the loan from microfinance after acquiring them.

The observation in the study area shows that, there are two microfinance institutions which are operating in the two village. These microfinance involve Njombe Community Bank and Promotion of Rural Initiative and Development Enterprises (PRIDE) Tanzania. The two institutions are based in Njombe town. Despite their operation in the study area, few people were reported to be benefited from these institutions. The reported reasons for the situation was mainly tight condition in getting loans enforced by these institution. Discussion with the key informant from the institutions revealed that the customers are required to form small economic groups in order for them to get credit. The group is accountable in case one group member defaults in repay the loan. The discussion with the respondent indicates that there is no trust among the villagers from both villages in forming the groups in order to process the loan from microfinance. This reduces customers from the microfinance operating in the study area.

In addition, there are two Saving and Credit Cooperative Society (SACCOS) which operates in the study area. These are, Lupembe SACCOS which operates in the

whole division and Vijana SACCOS which is based much in Matembwe village. This study observed that the performance of the two SACCOS is not encouraging. The discussion with the key informant in both SACCOS revealed that, the institutions are not performing well because of the lack of financial skill to the villagers. A lot of villagers does not understand the importance of joining these SACCOS.

On the other hand, the existence of private money lender in the study area was recognised by village officials and respondents. However, identifying them was reported to be challenging because most of them are providing service to their customer in a secrete way. It was also reported that the amount of interest charged and the collateral required in this service is often confidential between the private money lender and the recipient. General discussion with the respondent indicated that, the service is not beneficial to the rural household due to the high interest charged and the collateral required which is often land, valuable asset such as bicycle and television; and livestock particularly Cattle and pig.

4.7.5 Education Level of Household's Heads Engaging in Nonfarm Activities

The probability of engaging in nonfarm economic activities depends on the level of education the household or individual possess (Dary and Kuunibe 2012). The observation from this study revealed more than half (51.0 percent) of the households of household engaging in nonfarm sector had possessed primary school education. Secondary and college education was observed at 28.6 and 20.4 percent respectively as indicated in the table below. The discussion with respondent indicated that the non-farm activities undertaken in the surveyed areas were small scaled which does not require higher level of education.

Table 12: Level of Education of Heads of Households Engaging in Nonfarm Activities

Level of education	Villages		Total (n=73)
	Lupembe (n=34)	Matembwe (n=39)	
	% Household	% Household	
Primary education	55.9	46.1	51.0
Secondary education	26.5	30.8	28.6
College Education	17.6	23.1	20.4

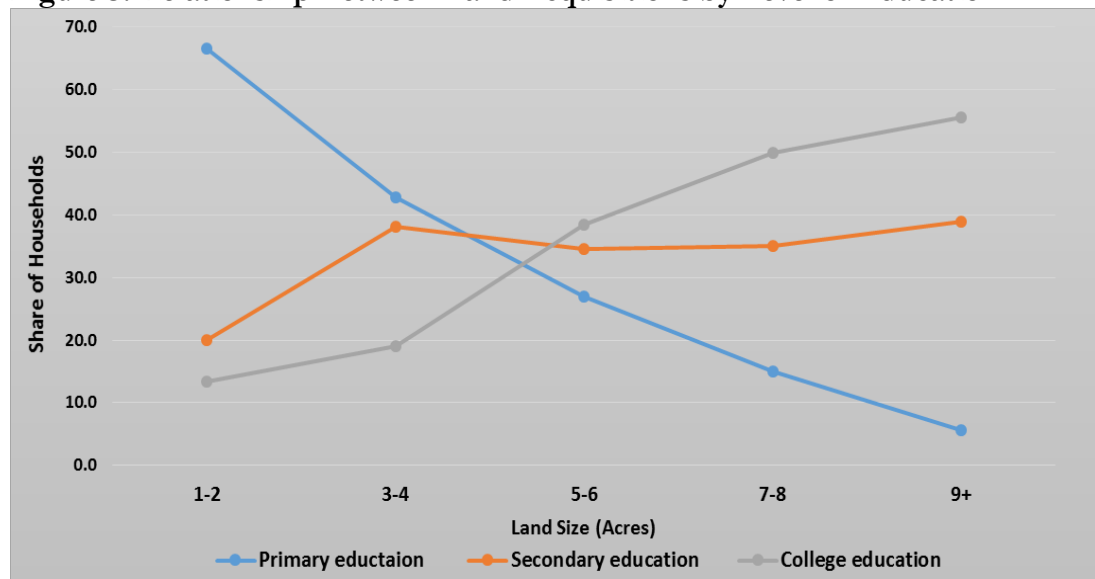
Source: Field survey, August, 2015

The findings further indicated that, heads of household with secondary and college level are participating in those nonfarm economic activities which require higher

capital than those with primary education. These nonfarm activities which require large capital involves; guest houses operation, carpentry, pharmacy, production and selling of timber, wholesale and retail shop while those which requires small amount of capital includes; local beer brewing, tea rooms, bicycle repair and employment in the timber production.

In additional, the findings from the surveyed area indicates the positive correlation between the level of education and land acquisition. The findings shows that most household (55.6 percent) with secondary education in the surveyed areas owned 9 and above acres of land compared with 5.6 percent heads of household with primary education who owned the same acres of land. On the other hand, 66.7 percent of the heads of household with primary education was observed to own between 1 and 2 acres of land compared with 13.3 percent of household with college level of education who won the same size of land. Furthermore the findings revealed that, most household heads (38.9 percent) with secondary level of education was found to possess also 9 and above acres of land as indicated in the chart below.

Figure 3: Relationship Between Land Acquisitions by Level of Education



Source: Field survey, August, 2015

The observation in the study areas further indicates that, both secondary and college level of education have positive relation with the land acquisition. However, college level education has higher influence to land acquisition by rural households compared with secondary level of education.

The discussion with respondent indicates that, the household with higher land possession have a greater chance to start or expanding nonfarm activities compared

with those with little land acquisition. On the other hand, the study observed further the household with little land acquisition are forced to engage in nonfarm employment due to the shortage of production from the available land. This observation complied with the findings from (Quang Tran 2012) that indicates that shortage of land may be a significant factor that trigger participation of rural farm households into the nonfarm activities and hence improves the rural household's welfare. These observation also comply with the findings by (Gordon and Craig 2001) that indicates access to natural resources particularly land by rural households triggers their participation into the nonfarm sector.

4.7.6 Limitations on the Growth of Nonfarm Activities

Growth of nonfarm activities is affected by a variety of factors. The main obstacle that hinders rural household participating in nonfarm activities are access to capital and environment within which the rural nonfarm sector operates affects much the supply side (Loening and Lane 2007). This study found that most of the respondents (56.5 percent) mentioned insufficient capital as the constraints towards their establishment and expansion of their nonfarm activities. 27.7 percent of the households mentioned inadequate education, whereas poor road and transport services was mentioned by 35.8 percent of the households, unreliable market 33.0 percent, Access to electricity 27.0 of the households. Other factors such as poor business premises, gender roles and scarcity of skilled labour was mentioned by 16.7 percent of the households participating in nonfarm sector as indicated in the table 13 below. This results are similar with results obtained in the study conducted by (Loening and Lane 2007) on Tanzania Pilot Rural Investment Climate Assessment: Stimulating Nonfarm Microenterprise Growth. The study indicates that about 61.0 percent of rural household engaged in nonfarm activities rate financing as severe constraint to their nonfarm activities.

Table 13: Constraints on the Growth of Rural Nonfarm Activities

Constraints of Nonfarm activities	Villages		Total (n=73)
	Lupembe (n=34)	Matembwe (n=39)	
	% House- hold	% Household	
Insufficient Capital	61.8	51.3	56.5
Inadequate Entrepreneurship Skills	32.4	23.1	27.7
Poor Road and Transport Services	38.2	33.3	35.8
unreliable Market	35.3	30.8	33.0
Access to Electricity	20.6	33.3	27.0

Others	20.6	12.8	16.7
Note: Totals is above 100 percent because of multiple responses.			
Source: Field survey, August, 2015			

The conclusion from this finding is similar with that from other studies by (Assan 2014, Davis and Bezemer 2004) which shows that, credit constraints and withdrawal of the government's subsidies on farm inputs, facilitates livelihood diversification to most of the rural households. In addition the study by (Rutasitara 2002) in his survey conducted in three regions of Tanzania (Mwanza Ruvuma and Dodoma) indicates that, 79.7 percent of the household who were found to not participate themselves in nonfarm sector mentioned lack of initial capital and equipment as the major limitations.

The discussion with respondent shows that, insufficient initial capital was largely attributed by lack of access to credit to the available financial institutions operating in the two villages. Tight conditions and long procedures required for acquiring credit was mentioned by majority of respondent as the major constraints towards accessing the credits.

Further discussion with the respondents revealed that poor transport and road services affects much those entrepreneurs who engaged in timber industry. The road infrastructures from the timber production areas to the village centre which is the timber market centres are not conducive for the transportation of timber. The roads are seasonal which to some extent increases the timbers production cost. Timber producers are also affected by the access to electricity due to the fact that the electricity is not accessible to timber production areas.

In addition the interview with key informant mention lack of entrepreneurship skills and risk involved in the nonfarm sector are the reasons of some household in the surveyed villages to not engage in the nonfarm sector. Inadequate entrepreneurship skills was observed to be attributed much by the absence of training institution that provides business skills in both villages. In addition, the discussion indicates majority of the household participating in nonfarm activities had not provided with any business training. Further discussion with the district officials revealed that, the district council through the department of trade and cooperation has a responsibility of providing the entrepreneurship training to the district entrepreneurs.

Other reported factors include lack of specific skills of some nonfarm activities such as tailoring, carpentry, welding and garage (vehicle and motorcycle repair). The discussion with respondents indicates that, lack of specific skills is attributed much by the absence of vocational training school in the surveyed villages.

4.8 Relationship between rural Nonfarm and farm activities

Recent studies has revealed interdependence of farm and nonfarm sector in the growth of the each sector (Reardon et al. 1994). This study observed that, most of the households in surveyed villages, engaged in nonfarm activities are also engaged in agriculture activities. The study indicates the seasonality flow of labour force between the two sectors which is caused by seasonality of the agriculture sector. The results agreed with the result obtained by (Haggblade et al. 1989) that indicates that, about 20-40 percent of the rural labour force in sub-Saharan Africa engaged in both farm and nonfarm activities. In this regard, this range signifies the substantial amount of labour movement between rural farm and nonfarm sector.

This study observed the downstream relationship between the two sectors in both Lupembe and Matembwe villages. The growth of nonfarm activities in both village is determined much by the growth of agriculture sector especially tree farming. The growth of trees farming facilitates the growth nonfarm activities through the supply of tree as an inputs in the timber production industries. Most the household in the two village are engage in the trees farming which on the other hand push them to engage in nonfarm sector because of the duration the trees farming took before harvesting. In additional, upstream relationship was also observed in the sense that, the growth of trees farming results to the increase in the number of household/ individuals in the two villages who are engaged in timber production and trees cutting through the use of chain saw machines.

Furthermore, the study observed the flow of capital between the two sectors in the study area. This was evidenced by the findings which indicates most of the households (64.7 percent) obtained initial capital to start nonfarm activities through savings from crops sells. Further the study revealed that rural household in the surveyed area spent part of their income earned from nonfarm activities to purchase farm inputs such as fertilizers and modern seeds and hiring farm labourers. The findings are re-

semble to those in the study undertaken by (Ndalahwa 1998) on De-Agrarianisation and Rural Employment Network which was conducted at kwimba district in Tanzania. The finding of the study shows that 40.0 percent of the entrepreneurs obtained their initial capital and part of profit from nonfarm activities to finance agricultural activities. The result also comply with other study by (Haggblade et al. 1989, Davis and Bezemer 2004) which indicates that capital outflow from farm to nonfarm activities is larger than that from nonfarm to farm. However, in this study following the growth of timber industry, nonfarm operators spent large portion of their profit to acquire land for trees planting.

In additional, the study observed the expenditure linkage between the two sectors. This was observed by the income obtained by the households participated in the two sectors to spent part of their income to purchase the output from the other sector. This is to say those household in the surveyed area who engaged in farm activities spent part of their income obtained in the farm activities to purchase the nonfarm output such as consumer goods which involves soaps, clothes, and cooking oil. On the other hand those engaged in nonfarm activities spend part of their income to purchase output from agriculture sector particularly grains like maize and beans. The findings comply with other findings of the study which conducted in Tanzania that indicates large proportion of income (13.9 percent) obtained from nonfarm activities are used on purchasing food items including grains like maize and rice in rural Tanzania (Katega and Lifuliro 2014).

4.9 Significance of Nonfarm Activities in Rural livelihood

4.9.1 Income Obtained from Rural Nonfarm Activities

Empirical evidence from different studies in developing countries indicates that rural nonfarm economic activities has a substantial contribution to the rural household income (Haggblade et al. 1989, Assan 2014, Barrett et al. 2001, Word Bank 2007). The analysis in this section was aimed at acquiring information on the income the household obtained from nonfarm activities in previous years. The study observed that the average annual earnings from nonfarm activities in the surveyed area was TZS 342,687. Most of the household (30.5 percent) in the surveyed area earned income between TZS 400,000 – 499,000 and TZS 500,000 – 599,000 (26.8 percent). Income generated by other households in the surveyed area were observed to fall un-

der TZS 600,000 and above (16 percent), 300,000 – 399,000 (15.4 percent) and 299,000 or below was 11.2 percent as indicated in the table 14 below.

Table 14: Annual Household Income from Nonfarm Activities by Villages

Household Income (TZS)	Villages		Total (n=73)
	Lupembe (n=34)	Matembwe (n=39)	
	% Household	% Household	
≤299,000	14.7	7.7	11.2
300,000 - 399,000	20.6	10.3	15.4
400,000 - 499,000	35.3	25.6	30.5
500,000 - 599,000	17.6	35.9	26.8
600,000+	11.8	20.5	16.1

Source: Field survey, August, 2015

The discussion with respondents indicates that, the households earned income between TZS 600,000 and above, were found to engage much in service and trading category of nonfarm activities which requires high investment capital. This activities involves guest houses operation, bars and hotels; and timber trading. On the other hand, those household earned between TZS 299,000 and below was found to engage in activities which does not require much capital like brickmaking, local brewing, bicycle repair and provision of lobar in construction sites.

The study further observed that, most of the household that were found to participate in nonfarm activities had more valuable asset compared with those that were found not to participate in nonfarm activities. The commonly mentioned asset owned by these households was Bicycle, Motorcycle, television, ox-plough and cars. In addition, the quality of most of the houses owned by the household participating in nonfarm activities was better off compared with those who were not engaged in the sector. The houses were found to be roofed by iron sheet, and constructed by mud-bricks with cemented floor and was found to be connected with electricity. On the other hand, the most of the houses owned by households that are not participating in

nonfarm sector were observed to be small unpainted mud houses and not connected to the electricity.

4.9.2 Proportion of Nonfarm Activities Earnings in Total Household Income

Different studies in developing countries agreed on substantial share of nonfarm income in the average rural household income and revealed a significant growth (Barrett et al. 2001, Ellis and Mdoe 2003, Reardon 1997). It is also believed that the higher the share of nonfarm income to the total household income the higher the level of participation to the nonfarm sector (Barrett et al. 2001). In view of this, the proportion of income from nonfarm activities is used as a measure of the level of household participation into nonfarm activities.

In this study the share of nonfarm income to the total income the household obtained was also estimated in the surveyed areas. The study revealed that, majority of household (45.1 percent) in the surveyed area earned between 41 to 60 percent of their income from nonfarm activities as indicated in the table 15 below. The observed average share of income from nonfarm activities to the total household income is consistence with that of Africa which indicates 42.0 percent average share of nonfarm income in the overall income earned by rural household (Reardon et al. 1998). The share also almost the same with that of developing word which range from 35 to 60 percent of household income are from nonfarm activities (Haggblade et al. 2010, Ebaidalla 2014)..

Table 15: Proportion of Nonfarm Activities Earnings in Total Household Income by villages

Share of income	Villages		Total (n=73)
	Lupembe (n=34)	Matembwe (n=39)	
	% Household	% Household	
1-20	5.9	7.7	6.8
21-40	23.5	15.4	18.0
41-60	44.1	46.2	45.1
61-80	17.6	20.5	19.1
81+	8.8	10.3	9.5

Source: Field survey, August, 2015

4.9.3 Share of Earning from Nonfarm Activities by household income Level

Various scholars present that the level of household income determines a share of nonfarm income to the total household income (Reardon et al. 2000, De Janvry et al. 2005). According to (Reardon et al. 2000) low income earners are considered to have less share from nonfarm activities when compared to the higher income earners. During the survey it was observed that the share of nonfarm income to the total income of the household participating in nonfarm activities is determined by the status of income of that household. This was evidenced by the observation which indicates the households with earning between TZS 600,000 and above obtains large share (71.1 percent) from nonfarm income in their total income compared with household in other level of income category as indicated in the table 16 below.

Table 16: Share of Earning from Nonfarm Activities by household income Level

Households Income Level	Villages		Total (n=73)
	Lupembe (n=34)	Matembwe (n=39)	
	Average % in Household Income	Average % in Household Income	
<299,000	23.9	28.4	26.2
300,000 - 399,000	21.5	23.4	22.5
400,000 - 499,000	32.3	39.5	35.9
500,000 - 599,000	49.4	56.0	52.7
600,000+	67.8	74.3	71.1

Source: Field survey, August, 2015

The analysis indicated that, the deference of share of income from nonfarm activities is triggered by the investment return. In the study area the household with high level of income earnings was observed to invest in the nonfarm activities that generates higher returns compared with those household in other level of income. The discussion further revealed that, the household with low level of income face constraints such as low capital when they wish to invest in nonfarm activities with greater profits. In this regard, nonfarm activities can contributes to the increase income inequality in rural areas. This observation is consistence with that of (Reardon et al. 2000) which indicates there is large gap of the returns to labour between the na-

ture of nonfarm activities conducted by the household or individuals with deferent wealth strata.

The discussion with respondent indicates that, nonfarm activities is dependable economic activities to improve their income level. However, this will be possible if the government policies will be directed in improving the investment climate of the rural areas.

4.9.4 Uses of Income from Rural Nonfarm Activities

Income earned from nonfarm activities plays a substantial role in improving the standard of living to the rural household participating in the nonfarm sector (Assan 2014, Barrett et al. 2001, Davis and Bezemer 2004). This study found that rural household engaging in nonfarm sector are provided not only with better security but also an opportunity to have a better standard of living. The study observed that income obtained from nonfarm actives are consumed in purchasing of farm input, paying school fees, buying food, consumer consumption which involves buying soap, clothes and the like, buying home asset, and expansion of nonfarm activities . Other expenditure was on transport, house construction and repair, paying house rent, Health expenses, Labour payment and land expansion. This findings are consistence with those found by (Madaki and Adefila 2014) in rural Nigeria. The findings shows the income generated from nonfarm activities is spent on domestic and economic consumption. Domestic consumption involves purchases of consumer good, food, transport and health expenses whereas, economic consumption involves purchases of farm inputs, expansion of land, expansion or establishment of new nonfarm activities.

Chapter 5 Conclusion

The study was conducted with the main objective of examining the relationship between nonfarm activities and rural livelihood. The study managed to indicate various driving factors of rural household participation in nonfarm activities. The study established that, the participating of rural household in nonfarm activities is determined by push and pull factors. The push factors that found by the study include; rural household low income from agriculture activities, land inadequacy, seasonality of agriculture activities and minimizing risk from poor agriculture performance. Whereas the pull factors established by the study include; increased opportunities in the non-farm sector particularly due to the growth of timbering industry. This findings is consistence with the result found by various authors which indicates decision for households to participate in nonfarm activities is frequently determined by various factor which based on push and pull factors (Lay et al. 2007, Aikaeli 2010, Dary and Kuunibe 2012, Reardon and Taylor 1996, Ellis 2000). The findings approved the first hypothesis of this research which assumed that the engagement of rural households in nonfarm activities is influenced by the changes in economic characteristics.

The study further recognised the substantial relationship between farm and non-farm sector. The study established both downstream and upstream relationship between farm and nonfarm sectors. Downstream relationship was observed by the supply of trees from trees farms as an inputs in the timber industry. Whereas, upstream was recognised the growth of nonfarm activities in the study area is due the growth of tree farming. The study further, observed the existence of investment reliance between the two sectors. Most of the rural household in the study area engaged in non-farm sector was found to obtain the start-up capital through savings from agriculture activities. On the other hand, the rural household participating in nonfarm activities invest part of their income generated from nonfarm activities in agriculture activities such as crop farming and tree planting. In additional the study the expenditure linkage from two sectors. That is the income obtained from nonfarm sector are used to purchase the outputs from farm sector and vice versa. The same was also established by (Ndalahwa 1998, Haggblade et al. 1989, Davis and Bezemer 2004) that, several households or individuals participating in nonfarm activities obtained the initial capita from nonfarm activities and the spent part of the income from nonfarm activities to

invest in farm activities. The study confirmed the second hypothesis that there are crucial relationship between farm and nonfarm sector.

Finally, the study established the significance of nonfarm activities as a livelihood strategy to the rural household. The findings shows that there is a significant share of income from nonfarm activities to the overall household income. The current study observed the earning of between 41.0 to 60.0 percent of the total rural household income from nonfarm activities which is almost the same with that of developing word which range from 35 to 60 percent of household income are from nonfarm activities (Haggblade et al. 2010, Ebaidalla 2014). The study also established that nonfarm activities play a vital role in the rise of living standard of the rural household. This is evidenced by the utilisation of income obtained from nonfarm activities in deferent household needs. The income generated from nonfarm were found to be used in purchases of nonfarm inputs, paying school fees, buying food, consumer consumption, buying home assets, paying house rent, health expenses and land expansion. This conclusion is consistence with that established by (Reardon et al. 2000) which confirm that, involvement in nonfarm activities raises significantly the average standard of living. Likewise, the findings approved the third hypothesis which proposed nonfarm activities as the significance livelihood strategy of the rural households.

Generally the study established that nonfarm activities is a dependable livelihood strategy to the rural household in Njombe district due to its contribution to the rise in income and improvement in the standard of living to the rural households. The study also found that crop diversification which include trees farming is the alternative means of increasing household income through agriculture to those household facing difficulties in participating in nonfarm sector. The conclusion is consistence with the result by (Pellegrini and Tasciotti 2014) which shows that, even the households with low income and small land possession might have a better chance of benefiting from crop diversification.

References

- Ahmed, M. (1996) 'Development of Rural Nonfarm Activities: A Dynamic Approach to Poverty Alleviation in Rural Asia', *Regional Development Studies* 2(1): 1-22.
- Aikaeli, J. (2010) 'Determinants of Rural Income in Tanzania': An Empirical Approach.
- Alderman, H., P. Chiappori, L. Haddad, J. Hoddinott and R. Kanbur (1995) 'Unitary Versus Collective Models of the Household: Is it Time to Shift the Burden of Proof?' *The World Bank Research Observer* 10(1): 1-19.
- Anderson, D. and M.W. Leiserson (1980) 'Rural Nonfarm Employment in Developing Countries', *Economic Development and Cultural Change*: 227-248.
- Assan, J.K. (2014) 'Livelihood Diversification and Sustainability of Rural Non-Farm Enterprises in Ghana', *Journal of Management and Sustainability* 4(4): p1.
- Atamanov, A. and M. Van den Berg (2011) 'Microeconomic Analysis of Rural Non-farm Activities in the Kyrgyz Republic: What Determines Participation and Returns?' Available at SSRN 1949675.
- Bardhan, P. and C. Udry (1999) *Development Microeconomics*: Pranab Bardhan and Christopher Udry. Oxford [etc.]: Oxford University Press.
- Barrett, C.B., T. Reardon and P. Webb (2001) 'Nonfarm Income Diversification and Household Livelihood Strategies in Rural Africa: Concepts, Dynamics, and Policy Implications', *Food Policy* 26(4): 315-331.
- Cline-Cole, R. and E. Robson (2005) 'Conclusion: West African Futures?' *West African Worlds: Paths Through Socio-economic Change, Livelihoods, and Development* (6): 281.
- Coppard, D. (2001) 'The Rural Non-Farm Economy in India: A Review of the Literature', *Natural Resources Institute Report* (2662).
- Dary, S.K. and N. Kuunibe (2012) 'Participation in Rural Non-Farm Economic Activities in Ghana', *American International Journal of Contemporary Research* 2(8): 154-161.
- Dary, S.K. and N. Kuunibe (2012) 'Participation in Rural Non-Farm Economic Activities in Ghana', *American International Journal of Contemporary Research* 2(8): 154-161.

- Davis, J.R. (2003) 'The Rural-Non-Farm Economy, Livelihoods and their Diversification: Issues and Options', Livelihoods and their Diversification: Issues and Options (July 2003).
- Davis, J.R. and D.J. Bezemer (2004) 'The Development of the Rural Non-Farm Economy in Developing Countries and Transition Economies'(Key Emerging and Conceptual Issues: Chatham, UK: Natural Resources Institute.).
- De Janvry, A., E. Sadoulet and N. Zhu (2005) 'The Role of Non-Farm Incomes in Reducing Rural Poverty and Inequality in China', Department of Agricultural & Resource Economics, UCB.
- De Janvry, A., E. Sadoulet and N. Zhu (2005) 'The Role of Non-Farm Incomes in Reducing Rural Poverty and Inequality in China', Department of Agricultural & Resource Economics, UCB.
- Ebaidalla, E. (2014) 'Determinants of Farm Household Participation in Non-Farm Income Activities: Evidence from Rural Sudan', April, 2014 (A Research Proposal Prepared for African Economic Research Consortium (AERC)).
- Ebaidalla, E. (2014) 'Determinants of Farm Household's Participation in Non-Farm Income Activities: Evidence from Rural Sudan' A Research Proposal Prepared for African Economic Research Consortium', Kenya: University of Khartoum, Sudan.
- Ellis, F. (2000) 'The Determinants of Rural Livelihood Diversification in Developing Countries', Journal of Agricultural Economics 51(2): 289-302.
- Ellis, F. and N. Mdoe (2003) 'Livelihoods and Rural Poverty Reduction in Tanzania', World Development 31(8): 1367-1384.
- Fan, S., P. Hazell and S. Thorat (2000) 'Government Spending, Growth and Poverty in Rural India', American Journal of Agricultural Economics 82(4): 1038-1051.
- Ferreira, F.H. and P. Lanjouw (2001) 'Rural Nonfarm Activities and Poverty in the Brazilian Northeast', World Development 29(3): 509-528.
- Fisher, T., V. Mahajan and A. Singha (1997) 'The Forgotten Sector: Non-Farm Employment and Enterprises in Rural India. Intermediate Technology Publications Ltd.
- Gordon, A. and C. Craig (2001) Rural Non-Farm Activities and Poverty Alleviation in Sub-Saharan Africa. Natural Resources Institute, University of Greenwich.
- Haggblade, S., P. Hazell and J. Brown (1989) 'Farm-Nonfarm Linkages in Rural Sub-Saharan Africa', World Development 17(8): 1173-1201.

- Haggblade, S., P. Hazell and J. Brown (1989) 'Farm-Nonfarm Linkages in Rural Sub-Saharan Africa', *World Development* 17(8): 1173-1201.
- Haggblade, S., P. Hazell and T. Reardon (2010) 'The Rural Non-Farm Economy: Prospects for Growth and Poverty Reduction', *World Development* 38(10): 1429-1441.
- Hussein, K. and J. Nelson (1998) 'Sustainable Livelihoods and Livelihood diversification IDS Working Paper Number 69. Brighton: Institute of Development Studies. Kitchin'.
- IFAD (2010) 'Rural Poverty Report 2011'.
- Kadunge, B.L. and K. Timbula (2011) 'Private Forestry and Carbon Trading in the Southern Highland of Tanzania'(Back Ground and Support Data).
- Kamerman, S.B. (2000) 'Early Childhood Education and Care: An Overview of Developments in the OECD Countries', *International Journal of Educational Research* 33(1): 7-29.
- Katega, I. and C. Lifuliro (2014) 'Rural Non-Farm Activities and Poverty Alleviation in Tanzania: A Case Study of Two Villages in Chamwino and Bahi Districts of Dodoma Region'.
- Kitching, G.N. (1977) 'Economic and Social Inequality in Rural East Africa: The Present as a Clue to the Past', Monograph. Centre for Development Studies University College of Swansea (UK).
- Lanjouw, J.O. and P. Lanjouw (2001) 'The Rural Non-Farm Sector: Issues and Evidence from Developing Countries', *Agricultural economics* 26(1): 1-23.
- Lanjouw, P. and A. Shariff (2002), *Rural Non-farm Employment in India: Access Impact and Poverty Impact*.
- Lanjouw, P., J. Quizon and R. Sparrow (2001) 'Non-Agricultural Earnings in Peri-Urban Areas of Tanzania: Evidence from Household Survey Data', *Food Policy* 26(4): 385-403.
- Lay, J., T. Omar Mahmoud and G.M. M'Mukaria (2007) 'BodaBodas Rule: Non-Agricultural Activities and their Inequality Implications in Western Kenya'.
- Leechor, C. (1994) 'Ghana: Frontrunner in Adjustment', *Adjustment in Africa: Lessons from country case studies*: 153-192.
- Loening, J. and W.L. Lane (2007) 'Tanzania: Pilot Rural Investment Climate Assessment. Stimulating Nonfarm Microenterprise Growth', *Tanzania: Pilot Rural*

Investment Climate Assessment. Stimulating Nonfarm Microenterprise Growth.

Madaki, J. and J. Adefila (2014) 'Contributions of Rural Non-Farm Economic Activities to Household Income in Lere Area, Kaduna State of Nigeria', *International Journal of Asian Social Science* 4(5): 654-663.

Madulu, N.F. (1998) 'Changing Lifestyles in Farming Societies of Sukuma land: Kwimba District, Tanzania'.

May, T., 1957 (1997) *Social Research: Issues, Methods and Process*. (2nd edn) Buckingham [etc.]: Open University Press.

Ministry of Education and Culture (URT) (1995) 'Education and Training Policy'.

Ministry of Industry and Trade (URT) (2012) 'Micro Small and Medium Enterprises in Tanzania: National Baseline Survey '.

Mung'ong'o, C.G. (2000) 'Coming Full Circle: Agricultural Involution Non-Farm Activities and the Resurgence of Out-Migration in Njombe District Tanzania.' *Tanzanian Journal of Population Studies and Development* 7(1-2): 97-114.

Mung'ong'o, C.G. (1998) 'Coming Full Circle: Agriculture, Non-Farm Activities and the Resurgence of Out-Migration in Njombe District, Tanzania'.

National Bureau of Statistics (URT) (2013) '2011/12 Household Budget Survey: Key Findings'.

National Bureau of Statistics (URT) (2013) 'Population Distribution by Age and Sex'.

National Bureau of Statistics (URT). (2009) 'Household Budget Survey 2007'. Dar es Salaam: Ministry of Finance and Economic Affairs, National Bureau of Statistics.

Ndalahwa, F.M. (1998) 'DE-AGRARIANISATION AND RURAL EMPLOYMENT NETWORK Changing Lifestyles in Farming Societies of Sukuma land: Kwimba District, Tanzania', 1998 (Changing Lifestyles in Farming Societies of Sukuma-land: Kwimba District, Tanzania): 7.

Nghiem, L. (2010) *Activity and Income Diversification: Trends, Determinants and Effects on Poverty Reduction. The Case of the Mekong River*. International Institute of Social Studies of Erasmus University (ISS).

Pellegrini, L. and L. Tasciotti (2014) 'Crop Diversification, Dietary Diversity and Agricultural Income: Empirical Evidence from Eight Developing Countries', *Canadian Journal of Development Studies/Revue canadienne d'études du développement* 35(2): 211-227.

- PINGALI, P.L. and ROSEGRANT, M.W., 1995. Agricultural commercialization and diversification: processes and policies. *Food Policy*, 20(3), pp. 171-185.
- Quang Tran, T. (2012) 'A Review on the Link between Nonfarm Activities, Land and Rural Livelihoods in Vietnam and Developing Countries'.
- Reardon, T. (1997) 'Using Evidence of Household Income Diversification to In-form Study of the Rural Nonfarm Labor Market in Africa', *World Development* 25(5): 735-747.
- Reardon, T., J. Berdegue, C.B. Barrett and K. Stamoulis (2007) 'Household In-come Diversification into Rural Nonfarm Activities', 'Transforming the rural non-farm economy: opportunities and threats in the developing world: 115-141.
- Reardon, T., E. Crawford and V. Kelly (1994) 'Links between Nonfarm Income and Farm Investment in African Households: Adding the Capital Market Perspec-tive', *American Journal of Agricultural Economics*: 1172-1176.
- Reardon, T., K. Stamoulis, A. Balisacan, M. Cruz, J. Berdegue and B. Banks (1998) 'Rural Non-Farm Income in Developing Countries', *The state of food and ag-riculture 1998*: 283-356.
- Reardon, T. and J.E. Taylor (1996) 'Agroclimatic Shock, Income Inequality, and Pov-erty: Evidence from Burkina Faso', *World Development* 24(5): 901-914.
- Reardon, T., J.E. Taylor, K. Stamoulis, P. Lanjouw and A. Balisacan (2000) 'Effects of Non-farm Employment on Rural Income Inequality in Developing Countries: An Investment Perspective', *Journal of agricultural economics* 51(2): 266-288.
- Rutasitara, L. (2002) *Economic Policy and Rural Poverty in Tanzania: A Survey of Three Regions*. Mkuki na Nyota Publishers.
- Scheyvens, R. and D. Storey (2003) *Development Fieldwork: A Practical Guide* / Ed. by Regina Scheyvens and Donovan Storey. London [etc.]: SAGE Publications.
- Singh, I., L. Squire and J. Strauss (1986) 'The Basic Model: Theory, Empirical Results, and Policy Conclusions', *Agricultural household models: Extensions, applica-tions, and policy*. Washington, DC: The World Bank: 17-47.
- SMITH, D.R., GORDON, A., MEADOWS, K. and ZWICK, K., 2001. Livelihood diversification in Uganda: patterns and determinants of change across two ru-ral districts. *Food Policy*, 26(4), pp. 421-435.
- Tanzania National Council for Financial Inclusion (2013) 'National Financial Inclu-sion Framework' Printing by Color Print Tanzania.

- United Republic of Tanzania (2013) 'Njombe Regional Investment Profile', pp. 1-1-64. Dar es Salaam: Government publishers.
- United Republic of Tanzania (2005) 'The Cooperative Reform and Modernization Program 2005-2015', pp. 3. Dar es Salaam: Government Publishers.
- United Republic of Tanzania (2005) 'NATIONAL STRATEGY FOR GROWTH AND REDUCTION OF POVERTY', June, 2015.
- URT Prime Minister's Office (RALG) (2013) 'NJOMBE REGIONAL INVESTMENT PROFILE'.
- Wangwe, S. and M. Lwakatare (2004) 'Innovation in rural finance in Tanzania', Third Annual Conference on Microfinance held from 15th to 17th March.
- World Bank (2007) 'Tanzania Rural Investment Climate Assessment: Stimulating Non-Farm Micro Enterprise Growth', Sustainable Development Network, Eastern Africa Country Cluster 1.
- World Bank (2008) Sustaining and Sharing Economic Growth in Tanzania. World Bank Publications.
- Zhang, L., J. Huang and S. Rozelle (2002) 'Employment, Emerging Labor Markets, and the Role of Education in Rural China', China Economic Review 13(2): 313-328.

Appendices

Appendix I

QUESTIONNAIRE FOR HOUSEHOLD SURVEY

PART I

Characteristics of Study Population

1. Name of the village.....
2. Age, gender, education and marital status of household members

S/n	Age	Relationship	Gender		Education Level	No. of Years in School	Marital Status
			Male	Female			
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

NB: 1=should bear the particular of the head of household

3. Is there any member/s of your household who is/are living in urban areas or abroad?
 - a) Yes ☐
 - b) No ☐
4. If yes in 3 above, specify the town/ country migrated to, sex and year of migration.

S/N	Sex Male/Female	Year of migration	Town/Country migrated to	Relationship with the head of household

5. Does your household get any assistance/help from the mentioned urban migrants?
 - a) Yes ☐
 - b) No ☐
6. If yes in 5 above, specify the following (in the past 12 months)

Type of assistance received		Total (Tshs)	Intended Use
Cash			
Goods/in kind			
Item	Estimated Value		
Total			

7. How did you use/spend assistance in cash (remittances) received from urban migrants? (You may tick more than one item)

- | | |
|--|--------------------------|
| (ii) Buying food | <input type="checkbox"/> |
| (iii) Paying school fees | <input type="checkbox"/> |
| (iv) Paying for treatment /buying medicine | <input type="checkbox"/> |
| (v) Starting non-farm activity/business | <input type="checkbox"/> |
| (vi) Expanding non-farm activity/business | <input type="checkbox"/> |
| (vii) House building/repair | <input type="checkbox"/> |
| (viii) Purchasing farm implements/inputs | <input type="checkbox"/> |
| (ix) Expanding farm size | <input type="checkbox"/> |
| (x) Paying laborers | <input type="checkbox"/> |
| (xi) Buying/renting new farm | <input type="checkbox"/> |
| (xii) Buying livestock | <input type="checkbox"/> |
| (xiii) Other (please specify) | |

8. Is there any member of your household who is a member of any social or economic group in the village or outside the village?

- a) Yes ☐
- b) No ☐

9. If yes in 8 above, where is it located? (Tick one)

- (a) Within the village ☐
- (b) In another village ☐
- (c) In town ☐

10. What is/are the major activity/activities of the group?

.....

.....

11. How does your household benefit from the group?

.....

.....

PART II

Economic Activities of Study Population

12. What is the major economic activity in your household?

- (i) Crop farming ☐
- (ii) Livestock keeping ☐
- (iii) Nonfarm activity ☐
- (iv) Bee-keeping ☐
- (v) Other (please specify).....

13. Apart from the major economic activity mentioned above, what other economic activities is your household engaged in? (You can mention more than one activity)

- (i) Nonfarm activity ☐
- (ii) Crop farming ☐
- (iii) Livestock keeping ☐
- (iv) Timbering ☐
- (v) Bee-keeping ☐
- (vi) Other (please specify)

A. Nonfarm Activities

14. Is your household (members) engaged in any non-farm activity?

- a) Yes ☐
- b) No ☐

15. If yes in 12 above, what factors caused your household to engage in non-farm activity:

- a) Land inadequacy ☐
- b) Low income from agricultural activities ☐
- c) Minimize risk of poor agricultural performance ☐
- d) Increased customers ☐
- e) Other

16. If participating, what type of non-farm activity (includes laboring) does your household engage in? Specify year you started each activity and type of household members involved.

Type of Activity	Year started	Household members involved		Relationship with the head of H/hold
		M	F	

17. If no in 12 above, mention constraints that make you and your household members from engaging in any non-farm activities:

- a) Finance ☐
- b) Education and skills required ☐
- c) Age of household members ☐

- d) Afraid to risk or diversify from current activities ☐
- e) Gender roles/relations ☐
- f) Premises to carry out activity ☐
- g) Other.....
18. When does your household (members) engage in non-farm activity?
- a) Throughout the entire year ☐
- b) During off-farming season ☐
- c) After farming activities (in the evening) ☐
- d) Other (please specify).....
19. If you work/labor in nonfarm activity sector as a wage earner, in which category are you?
- a) Casual laborer/worker (specify activity) ☐
- b) Regular salaried employee/worker (specify activity) ☐
- c) Other (please specify).....
- d) How much do you earn per month in your laboring non-farm activity?
- Tshs.....
20. What factors which affect the performance/productivity of nonfarm activity your household is engaged in? (Please also specify how?)
- a) Finance ☐
- b) Education and skills required ☐
- c) Health ☐
- d) Age of household members ☐
- e) Afraid to risk or diversity from current activities ☐
- f) Age of household members ☐
- g) Transportation – roads and transportation services ☐
- h) Gender roles/relations ☐
- i) Premises to carry out activity ☐
- j) Other (specify) ☐
21. In the nonfarm activity you engage in, have you (or any of your household members) had any training/education?
- a) Yes ☐
- b) No ☐
22. If yes in (19), which type of training?
- (i) Management of money ☐
- (ii) Cooperatives ☐
- (iii) Handcraft (specify).....
- (iv) Carpentry ☐
- (v) Masonry ☐
- (vi) Business management/entrepreneurship ☐

- (vii) Project planning
 (viii) Other (please specify).....

23. Who offered this training (specify the training/s offered)?

- (i) Central Government (specify Ministry & training)
 (ii) Local Government (specify dept. & training)
 (iii) NGO (specify name & training)
 (iv) Others (specify name and training).....
 (v) Don't know (specify training)

☐
☐
☐

24. If no, why? (Mention the reason/s that prohibited you from attaining such training).....

25. Where is/are your nonfarm activity located?

- (i) Home-based activity (specify activity).....
 (ii) Away from home (specify activity's location e.g. at village center, in another village, etc).....
 (iii) If away from home what is the estimated distance in km?

26. Are the activities engaged in by your household (members) formal (with license/ registered) or informal (without license/unregistered) and who own/s the activities in terms of gender?

S/No	Activity	Type of Activity (Formal/ Informal)	Ownership (Male/ Female)

27. Who influenced your household to engage in nonfarm activity?

- (a) Friends and relatives participating in the nonfarm sector before
 (b) Friends and relatives who migrated to the area with non-farm activity opportunities
 (c) Friends made during training course attended
 (d) Other, please specify

☐
☐
☐

28. To your understanding, was your household decision to participate in non-farm activities influenced by poor condition of your household or to respond to the emerging opportunities in the non-farm sector (such as markets)? Explain briefly.....

.....

29. What are the physical resources which affect your nonfarm activity (if any)? (Rank them in order of seriousness to your activities by labelling 1, 2, 3, 4 and specify how?).

- (a) Roads ☐
- (b) Electricity ☐
- (c) Telecommunications ☐
- (d) Others (please specify).....

30. What amount of capital did you start your non-farm activity with and what is the total value of your nonfarm activity capital now?

S/No	Activity	Start-Up Capital (TSh)	Current Capital/ Value (TSh)

31. Where did you get capital (funds) for starting your non-farm activity?

- (a) Own saving ☐
- (b) Borrowed from relatives/friends ☐
- (c) Borrowed (credit/loaned) from financial institution/s (specify)..... ☐
- (d) Remittance from family members who have migrated to town ☐
- (e) Loan from local money lenders ☐
- (f) Other (please specify)

32. What difficulties (if any) you experienced in getting start-up funds/capital? (Specify how?).

- (a) Access to private money lender ☐
- (b) Access to any rural based financial service ☐
- (c) Access to any urban based financial service ☐
- (d) Other (specify).....

33. Have you ever attempted to get credit from any source so that you start or improve your non-farm activity/business?

- (a) Yes ☐
- (b) No ☐

34. If yes, from which institution/source and for what purpose? Specify if you faced any problems/barriers of borrowing from any of the mentioned sources.

S/N	Institution/ source	Location within the vil- lage/town	Purpose of bor- rowing	Succeed- ed/ Not suc- ceeded	Any prob- lems/barriers faced
1.	Bank (specify)				
2.	SACCOS (specify)				
3.	Local Group (specify)				

4.	Private money lenders (specify)				
5.	Friends/relatives (specify)				
6.	Others (please specify)				

35. If you obtained loan or borrowed funds for starting or expanding your non-farm activity/business, which kind of collateral did you use?

- (i) None ☐
- (ii) Land ☐
- (iii) Other assets (specify)..... ☐
- (iv) Business group members (specify)..... ☐
- (v) Others (specify)

36. In your opinion, what could be done to improve the situation as regards to financial capital for enabling households participation in the non-farm activities in rural areas?

.....

.....

.....

.....

37. What other measures do you suggest/think that could increase participation of your household in non-farm activities in your village?

- (i)
- (ii)
- (iii)
- (iv)
- (v)

38. Do you have any desire to expand your non-farm activity?

- (a) Yes ☐
- (b) No ☐

39. If yes, are you facing any constraints? (Please specify how?)

- (i) Limited funds ☐
- (ii) Availability of electricity ☐
- (iii) Availability of clean water
- (iv) Poor roads to and from markets

- (v) Poor transportation services to and from markets
- (vi) Leadership (specify level).....
- (vii) Long process involved in acquiring business license/registration ☐
- (viii) Access to land/land policy ☐
- (ix) Other (specify).....

40. What category/sector is/are your non-farm activities in?

- (a) Industry/manufacturing (specify the type/products) ☐
- (b) Services e.g. hotel, saloon, etc. (specify type) ☐
- (c) Trade (specify type and commodity) ☐
- (d) Other (Please specify)

41. What type of raw materials do you use in your non-farm activity/activities?

S/No	Nonfarm Activity	Raw material

42. Where do you get raw materials for your non-farm activity/business?

S/No	Nonfarm Activity	Place where raw material is obtained (e.g. within the village, in other villages, in town, other (specify))	Approximate distance to the source of raw materials in KMs

43. Do you employ laborers in your non-farm activity/business/es?

- (a) Yes
- (b) No

44. If yes, how many Males..... Females..... Total

45. How many household members engaged in your non-farm activity/business/es?
Males Females Total

46. On average, how much do you pay each laborer per month?
Tshs.....

47. How your nonfarm activity owned?

- (a) Self-owned ☐
- (b) Group/Jointly owned (specify with whom) ☐
- (c) Others. Please specify

48. What means of transport do you use in your business?

- (a) `Own bicycle ☐
- (b) Own ox or donkey ☐
- (c) Own cart ☐
- (d) Motorcycle ☐
- (e) Public transport ☐
- (f) Hired vehicle. ☐
- (g) Own vehicle ☐
- (h) Other (please specify).....

49. What kind of communication do you use in your non-farm activity?

- (a) Telephone..... ☐
- (b) Other (please specify)

50. In the nonfarm activity engaged by your household, how much do you produce per month?

S/No	Nonfarm Activity	Unit of production e.g. kgs	Amount produced per month
Total			

51. In the nonfarm activity engaged by your household, how much do you earn per month/year?

S/No	Nonfarm Activity	Earnings per month (Tshs)	Earnings per Year (Tshs)
Total			

52. Where do you sell (markets) products of your nonfarm activity?

S/No	Nonfarm activity product	Market place [within the village, in other villages, in town, other (specify)]	Approx. distance to the market place

53. On which items/activities do you spend the income earned from non-farm activities (include expenditure on farm (crop farming, livestock farming or bee-keeping, if any)

S/No	Items/activities on which income earned from non-activities was spent (in rank order of magnitude)
1.	
2.	
3.	
4.	
5.	
6.	

B. FARM ACTIVITIES

I. CROP FARMING

54. If you are practicing crop farming, which crops are you farming?

- (a) Maize ☐
- (b) Beans ☐
- (c) Irish potatoes ☐
- (d) Sweet Potatoes ☐
- (e) Tea ☐
- (f) Peas ☐
- (g) Millet ☐
- (h) Vegetables ☐
- (i) Other Crops (Specify)..... ☐

55. How much arable land does your household own? (Acres).....

56. How did you acquire land you own?

- (a) Inheritance ☐
- (b) Purchasing ☐
- (c) Renting ☐
- (d) Bush clearing ☐
- (e) Other (specify) ☐

57. Does that amount of land satisfy your household needs?

- (a) Yes ☐
- (b) No (Explain why)

58. Which agricultural implements do you use in farming?

- (a) Hand-hoe ☐
- (b) Ox-plough ☐
- (c) Tractor ☐
- (d) Others (specify)..... ☐

59. Which categories of labor does your household employ in agricultural production?

- (a) Family labor (adults only) ☐
- (b) Family labor (including children) ☐
- (c) Hired labor ☐
- (d) Working partners ☐
- (e) Other (specify)..... ☐

60. For each of the mentioned crops that you cultivate, how much land was cultivated in the last farming season/year? (Specify if you practice mixed cropping)

Crops	Hectares/acres Cultivated	If you practice mixed crop farming, specify with crop
Maize		
Beans		
Irish potatoes		
Sweet Potatoes		
Tea		
Peas		
Millet		
Vegetables		
Other Crops (Specify)		

61. What amount of crops did you harvest last year for each crop?

Crops	Kgs Harvested	Remarks
Maize		
Beans		
Irish potatoes		
Sweet Potatoes		
Tea		
Peas		
Millet		
Vegetables		
Other Crops (Specify)		

62. Was the last year a good, average or bad year in terms of weather (rainfall)?

63. If not an average one how much could you have harvested in an average weather/rainfall year for each crop?

Crops	Kgs Harvested	Remarks
Maize		
Beans		
Irish potatoes		
Sweet Potatoes		
Tea		
Peas		
Millet		
Vegetables		
Other Crops (Specify)		

64. What was the selling price for each crop per 100Kg sack or other unit as applicable?

Crops	Unit	Price per unit	Remarks
Maize			
Beans			
Irish potatoes			
Sweet Potatoes			
Tea			
Peas			
Millet			
Vegetables			
Other Crops (Specify)			

65. What problems do you face in practicing crop farming?

- (a) Availability of improved seeds ☐
- (b) Inadequate funds for purchasing improved seeds ☐
- (c) Inadequate funds for purchasing improved farming tools ☐
- (d) Inadequate funds for purchasing inputs (herbicides/pesticides) ☐
- (e) Inadequate skills in modern farming ☐
- (f) Low prices for produces ☐
- (g) Availability of shops selling farm inputs ☐
- (h) Lack of reliable transport to markets ☐
- (i) Poor roads to and from market ☐
- (j) Infertile land ☐
- (k) Pests (please specify).....
- (l) Other (please specify).....

66. Have you ever attempted to get credit from any source so that you could improve your crop farming activity?

- (a) Yes ☐
- (b) No ☐

67. If yes, from which source and for what purpose? Specify if you faced any problems/barriers of borrowing from any of the mentioned sources.

S / No	Institution/ source	Location within the village/town	Purpose of borrowing	Succeeded/ Not succeeded	Any problems/barriers faced
1.	Bank (specify)				
2.	SACCOS (specify)				
3.	Local Group (specify)				
4.	Private money lenders (specify)				

5.	Friends/relatives (specify)				
6.	Others (please specify)				

68. What measures do you suggest/think that could improve crop farming practice in your household?

.....
.....
.....
.....
.....

PART III

HOUSEHOLD ASSET OWNERSHIP

69. What asset does your household own? (What is the approximate value?)

S/No	Household Asset	Approximate Value
1.	Bicycle	
2.	Motorcycle	
3.	Furniture	
4.	Farming Plough	
5.	Others (Please specify)	

70. The quality of the main house of the household.

Part of the Building	Foundation	Wall	Roof	Electricity connection
Material used in construction of the house				

Appendix II

Some of Nonfarm and Farm Activities Conducted in the Study Area

	
<p>Retail Shop at Lupembe Village Lupembe</p>	<p>Brickmaking at Lupembe</p>
	
<p>Timber Trading at Matembwe</p>	<p>Vijana SACCOS LTd Office at Matembwe</p>
	
<p>Tea plantation at Lupembe village</p>	<p>Tree/ Forest Plantation at Matembwe</p>

Source: Field survey, August, 2015