AN ASSESSMENT OF VILLAGE SAVINGS AND LOANS ASSOCIATIONS ON HOUSEHOLD INCOME AT SOUTHERN UNGUJA

by

Khamis A. Shauri

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Economics (Project Planning and Management) of Mzumbe University.

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CERTIFICATION

DECLARATION AND COPYRIGHT

I, **Khamis A. Shauri,** declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature……

Date……

ACKNOWLEDGEMENTS

The task of conducting this study has been the most challenging and satisfying experiences of my life. The completion of this work would have been not possible without the generous advice, support and encouragement of many people.

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DEDICATION

This study is gratefully dedicated to my parents, my lovely Son (Irfaan), my wife (Hamisa) and relative friends for their encouragement and moral support.

ABBREVIATION AND ACRONYMS

ANCOVA	Analysis of Covariance
ANOVA	Analysis of Variance
CBSMF	Community Based Social Micro Finance
CSPro	Census and Survey Processing System
HBS	Household Budget Survey
HH	Household
ILFS	Integrated Labor Force Survey
OLS	Ordinary Least Squares
PEAP	Poverty Eradication Action Plan
PMA	Plan for Modernization of Agriculture
SACCOS	Savings and Credits Cooperative Societies
SEWA	Self-Employed Women's Associations
SME	Small and Medium Enterprises
SPSS	Statistical Package for Social Science
UNDP	United Nation Development Program
USD	United State Dollar
VSLA	Village Savings and Loans Associations

ABSTRACT

This study was interested on income poverty analysis to the community of southern Unguja in which majority of the household members were engaged on Village Savings and Credits Associations groups (VSLA). The primary objective of the study was an assessment of Village Savings and Loans Associations on Household Income at Southern Unguja. Total sample of 217 head of household who are joined with VSLA were selected. The study has provided two conceptual frame, namely total household income and determinants of VSLA' income. All technical techniques of sample size and determination were carried out. Two hypotheses were formulated; the result of the first hypothesis shown that income from VSLA, livestock, business and casual labour was economically significance at 1 and 5 per cent level. The result of the second hypothesis was very interesting in which the demographic variables had no impact to the VSLA income, the variable size of member who joined with the group and amount of household saving had shown to have impact at 1 per cent significance level. The Gini index shown the society of southern unguja has relative equality.

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CHAPTER ONE
GENERAL INTRODUCTION

1.1 Introduction

One of the major development problems facing the developing countries, including Tanzania is household income poverty; statistics shows over 1.3 billion people who live less than 1 USD per day, and 1 billion people who cannot meet basic requirements Peralta, (2003). Furthermore, 315 million people (one in every two people) in Sub Saharan Africa survive on less than one dollar per day, while 184 million people (33% of the African population) suffer from malnutrition UNDP, (2002).

Zanzibar is a part of Tanzania which lies off the eastern coast and situated some 30 km. from the mainland of East Africa, in the Indian Ocean. It is a low-lying island of coral formation, has an area of about 2,654 sq km of which 1,666 square kilometres for Unguja and the remaining 988 square kilometres is for Pemba Island. Coconuts, Cloves, Chillies, Copra and Seaweed are grown for export; fishing is also important to the local economy Statistical Abstract, (2007). This Island faces the same problem like all other developing countries, which is household income poverty. The statistics from Household Budget Survey (HBS) showed that 61% of Zanzibaris below the basic needs poverty line and 22% lived below food poverty line HBS, (1991/92). According to the 2004/05 HBS, it was found that 13.2% of the population is below the food poverty line which is Tshs. 12,573. It was further found that 49.1% of the population lives below basic needs poverty line which stands at Tshs. 20,185. In addition, the Gini coefficient of 0.28 signifies inequality in income distribution between households whereby some earn more while others less. The HBS of 2009/10 found that 13.0% of the population is below the food poverty line, which is Tshs. 26,904. It was also found that 44.0% of the population lives below basic needs poverty line that stands at Tshs. 41,027 and Gini coefficient is 0.30 (Table 1.1)

Table 1.1: Poverty Indicators

Indicators	1991/92 HBS	2004/05 HBS	2009/10 HBS
Basic needs poverty line	61.0	49.1	44.0
Below food poverty line	22.0	13.2	13.0
Gini coefficient	-	0.28	0.30
Gini coefficient-Southern District	-	0.23	0.24

Source: Office of Chief Government Statistician

- Data was not available

Implementation of economic growth and increasing household income strategies and programmes in Zanzibar dates far back since 1964, soon after revolution, those strategies and programmes took different form from years to years. In 2001 CARE international introduced a model of savings and credits associations groups, the group was formulated by members between 15 to 20, every household member joined with the group has an opportunity to get loan and this loan can be used for the household expenses or for the income generating activities. From that model some of the community members in rural areas at southern districts especially the women and the youth have formed self-help groups to mobilize their own savings and lend amongst themselves to start income generating activities and or improve their businesses, or cater for household basic needs, while the revenue generated is used to pack the loan and the interest paid helps the group fund to grow. Currently, compared to those other districts in Zanzibar, statistics shows southern Unguja has higher proportion of households with members participating on informal savings group system, the statistics shows an approximately of 44.3 per cent of the rural people joined with informal saving group and it is estimated that about 1.9 to 2.2 per cent of population have access to financial services which is bank loan taken by member of household HBS (2009/10). Based on that situation, this study therefore, influenced to capture the information from two areas, firstly, analyzing the impact of VSLA's income on the total household income at the people of southern Unguja and secondly, determining the household demographic characteristics that influence the members joined with VSLA groups to generate income.

1.2 Statement of the Problem

The province of southern district is one of the poor provinces in Zanzibar HBS, (2010). The Zanzibar Household Budget Survey Report (2010), statistics shown that at southern districts (24.0%) of household connected with electricity, shelter with poor flush toilets (5.2%), inadequate food supply in term of agricultural share of income (17.1%), and have problem on basic needs poverty headcount (30.5%). According to the World Bank (1996), there is need to diversify household income sources especially from non-farm activities and expand employment opportunities especially for the youth to increase incomes which will later translate into welfare improvements for the poor households. However, the poor cannot access financial services from the formal financial institutions because the transaction costs of small scale deposit taking and lending makes it uneconomic to the formal financial institutions to respond to the financial needs of poor people HBS (2009/10).

In 2001, CARE International implemented a unique savings-based microfinance program called a Village Savings and Loan Association (VSLA) in Zanzibar, the program was aiming to meet the unsatisfied financial demands of the poor people, Brannen (2010). Similarly, the people of southern district in Unguja have resorted to participating in VSLA to meet their financial needs HBS (2009/10).Their impact on development and challenges they face; apparently, little documentation has been made about the VSLA initiatives and their contribution to household income. However, there are studies conducted on VSLA in Zanzibar such as study conducted by Opoku et al, (2007) and study by Brannen (2010), but these studies did not provide the information about the significance impact of VSLA to the household income, therefore based on this gape of information we were interested to conduct the study which able to analyze the significance impact of VSLA on household's incomes and also through this study we determined the demographic characteristics that influence the household members who joined with groups able to generate income.

1.3 Objective of the Study

The primary objective of the study is to assess the village savings and loans associations on household income.

Specific Objectives, the study intends to:

1. analyze the impact of the VSLA to the households' incomes.
2. determine the impact of household demographic characteristics on VSLA's income
3. determine the magnitude of inequality in the distribution of household income

1.4 Hypothesis to be tested

Hypothesis testing determines the validity of the assumption (technically described as null hypothesis) with a view to choose between two conflicting hypotheses about the value of population parameter. Kothari (2007), highlighted that hypothesis testing helps to decide on the basis of a sample data, whether a hypothesis about a population is likely to be true or false. From that view, also during this study we took some hypotheses (assumptions) which were used to justify the research specific objectives. Therefore, this study seeks to test the hypotheses that:

1. Whether VSLA have a significance impact to the households' incomes.
2. Whether demographic characteristics have impact to the VSLA's incomes

1.5 Significance of the Study

The study had shade light on the contribution of the informal micro finance sector or VSLA group towards household poverty alleviation. It contributed to the body of knowledge about the role of the informal micro finance sector to economic development. This study had generated an extra knowledge on knowing the significance impact of VSLA on household income and determined the factors that contributed to generate income to the household member joined with VSLA. The findings help Policy makers to understand the involvement of community based savings micro finance to household income against poverty alleviation. In addition, the figure equips the policy makers to advocate and influence policies governing

credit accessibility among the poor households and community participation in the community based development initiatives.

Looking on the other application of different methodologies and techniques practical in other studies on determining household income, the study revealed the extent of impact for each of the factors and variables on household income. The knowledge and findings obtained help various stakeholders in poverty monitoring and alleviation to rectify the problem and hence for policy planners in making appropriate policies and measures to improve household income which may reflect to alleviate poverty at the household level. Finally, the study also enable policy makers and mostly government to borrow a leaf from the contributions of informal micro finance institutions and see how to embrace them and integrate their approaches into the bigger projects of Poverty Eradication Action Plan (PEAP) and Plan for Modernization of Agriculture (PMA) it is because micro finance is a key factor that can address issues that have long stood in the way of poverty alleviation, and can never be modern agriculture mostly in rural areas when it is not backed by increased income sources.

1.6 Scope and Limitationof this Study

The study used a cross-sectional primary data and this cross-sectional study was designed because of the study period is limited, it was believed the time frame of only one month of collecting the information was possible to find the information on household members joined with VSLA group and analyse the impact of VSLA on household income. Moreover, the study had looked on the factors that determine the VSLAs' income. However, VSLA groups are found in both Unguja and Pemba in all districts but due to time constrain, the study had been conducted only on VSLA group allocated at Southern district in Unguja. Furthermore, it is wisely for this study to be expanded in other district to learn more about impact of VSLA on household income, the wider coverage in all districts could result improved comparability.

1.7 Organization of the Dissertation

This dissertation is organized in six chapters. Chapter two details the theoretical and empirical literature review. Chapter three is about technical aspect of research methodology used in the data collection process, and discusses the construction of statistical formula used to derive sampling size.

In Chapter Four, presents the result of the study and the appropriate techniques that have been used during the analysis of data. The presentation started with descriptive statistics and end with estimation of econometric models.

Chapter five plays major role on discussing, presenting statistical and economical interpretation of the results that were presented in chapter four. The interpretation was guided by the estimated parameter on explaining its implication.

Chapter six presents' summaries, conclusion and recommendation based on the result of the previous chapters, and this chapter is very important to the stakeholder.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews the theoretical and empirical literature on impact of VSLA to the total household income, determinants of VSLA income of rural households and analyzes the inequality in the distribution of household income; it establishes the conceptual framework, which is the foundation of the empirical analysis. The chapter starts with theoretical literature review on discussing the concept of income, VSLA and poverty. Then, empirical evidence of the study was discussed. The chapter ends with the introduction of mathematical model of income in the last section.

2.2 Theoretical Literature Review

2.2.1 Household Income

Many developing countries, households' incomes seem as a major determinant of poverty. This might probably true because what an individual or household earns determines how much should be the expenditure and saving. A broad definition of poverty takes on board not only income but also other characteristics such as assets ownership and accessibility to socio-economic facilities. On the other hand, what a household owns as a resource determines how much is the household able to produce. When poor households' desire and need to save, they have opportunity to do so, but their capacity to save, commitment to saving, and the amounts they manage to save are remarkable. High income lead to alleviation of poverty in the households, ultimately resulting into improved quality of life of people in rural communities. According to the great economist Keynes, as households' income increases, at any time, it consumes and saves more.

2.2.2 Village Savings and Loans Associations

VSLA is an informal financial sector that has been created deliberately by self-mobilized and self-administered individuals or community groups who mobilize their savings at agreed intervals, and make them available and accessible to their members

in form of credit Ashe, (2002). The purpose of the fund is to support members financially to start or improve their small businesses, acquire productive assets, or buy life enhancing consumer durables such as blankets; bicycles, house hold utensils and children's school uniforms. Interest charged on those loans contributes to building the group's fund. The VSLAs where members mobilize savings and members who access them have to pay back principle and interest in an agreed period of time and money lenders Micro Finance Africa, (2000).

These self-help initiatives vary in their degree of complexity and address a wide range of needs that cannot be met by formal financial institutions. They enable the poor households address a wide range of the critical needs other than waiting for outsiders who have more power and resources and most of whom are neither rural nor poor Chambers, (1983).

2.2.3 Village Savings and Loans Association on Poverty Alleviation

It has been established that in order to overcome poverty the poor households must help themselves Chambers, (1983). The VSLAs therefore are set up to create and increase financial services accessibility to poor households to either alleviate poverty or slow it down Ashe, (2000). VSLA is known for providing useful sums of money to the poor households to start income generating activities and or improve their businesses. The revenue generated is used to pay back the loan, cater for household basic needs and general improvement of people's living conditions. Loans also help members to manage their life cycle events such as education, marriage, birth and home making; widowhood, old age and death Mutesasira cited in Micro save Africa, (2000).

According to UNDP, (2005), around 83% of the population in Bangladesh lived on less than $2 per day and 36% on less than $1 per day. The value of Human Development index for Bangladesh has been increasing at average rate of 8.8% per annum from the 1990s due to an increased availability of community based savings micro finance services for the poor households Micro save Africa, (1991). In Sri

Lanka, credit cooperatives provide loans to the farmers at affordable interest rates to improve their commercial plantations. This has solved the problems of rural credit and improved the livelihoods of a number of households.

The Self-Employed Women's Association (SEWA) in India is another CBSMF, which has helped people overcome the credit obstacle, and eventually poverty and hunger in their families. SEWA members are garment workers, handloom weavers, embroiders, and domestic maids who started by mobilizing 1000 rupees an equivalent of 1dollar per month and lending each other. After four years, the women opened up SEWA bank. By 1989, the bank had 25,000 saving accounts and one million dollars in working capital with a repayment rate of 96%. The government of India supported strongly the SEWA initiative by instituting policies that favor community participation Micro save Africa, (1991).

2.2.4 Inequality in the Distribution of Household Income

However, there are many techniques on measuring the inequality distribution of household income, but with this research the measurements used was the idea shown by Todaro using Lorenz curve and Gini Coefficient

The Lorenz curve is a powerful tool in the analysis of the size distribution of income. The curve is defined as the relationship between the commutative portion of income and the commutative portion of population Todaro (2009)

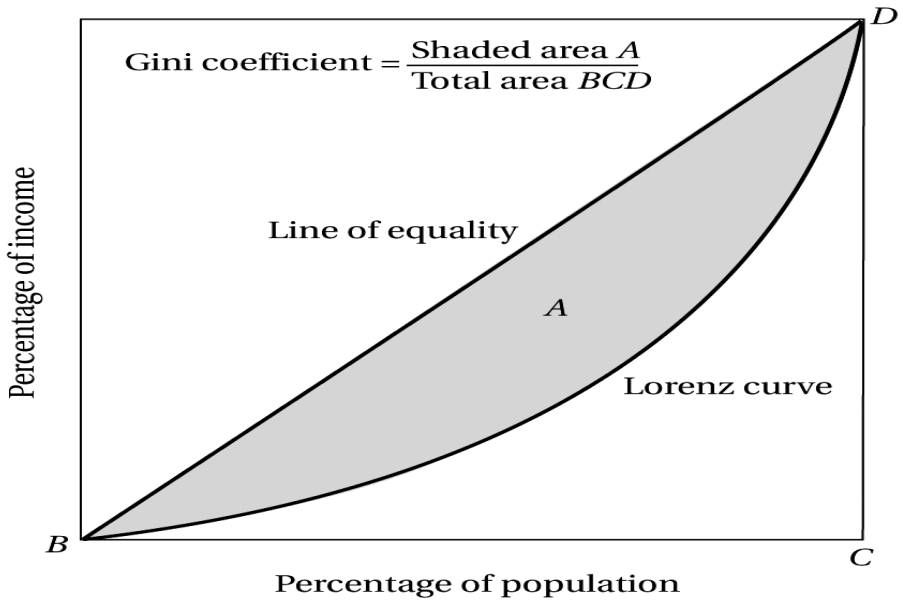


Figure 2.1: Estimating the Gini Coefficient Lorenz Curve

The overall Gini coefficient is applied to produce an estimate of the inequality in the distribution of total household income over the population. The lower the value of the Gini, the lower the inequality in the distribution of income, zero represents absolute equality. The inequality in the distribution of household income was measured using the Gini Coefficient and computed as the ratio of the area enclosed by the Lorenz curve and the diagonal line of perfect equality to the total area below the diagonal.

$$\text{Gini Cofficient} = \frac{\text{Shaded AreaA}}{\text{Total Area BCD}}$$

2.3 Empirical Literature Review

Integrated Labor Force Survey (ILFS) reported that those involved in wholesale and business have higher income compared to others like those involved in agriculture. This trend further justifies the influence of locality and type of economic activity on the individual's income ILFS, (2008). Furthermore, a study on determinants of poverty in Tanzania showed that household size, level of education of household head, location of the household, type of occupational activities, ability to read and

write, and demographic characteristics namely age, sex and marital status all have influence on the household income Kirama, (2004).

According to Mrema (2009) government policies and its commitment in implementing some of the development programmes have significant impact in household income. According to that study, there was no significant difference in income between facilitated and non-facilitated cashew farmers in Mtwara Rural district. The main reason of no difference was an inefficient implementation of the intervention programme which aimed at improving and increasing cashew harvest. Other reasons mentioned by farmers were lack of credit facilities, rapid rise of agro-chemicals and other input price.

SACCOS were also found to play a major role, although indirectly, in increasing income through boosting SMEs by providing loans to small and medium entrepreneurs, Mushy, (2008).

A study conducted in Kenya by Mutuerandu (1999) revealed an interesting results concerning per capita income. It was found that variables like population growth rate, private and public investment, terms of trade, human capital development, government budget deficit and export volume growth explain over 75% of the changes in per capita income. Private and public investment was found to have high positive impact in growth rate of per capita income. This implies that investment is the leading sector in increasing income through creating job opportunities.

In most areas of Tanzania, household income can be also be indicated by looking at how that particular household behaves in social issues. For example, marriage ceremonies done by many families nowadays consume much of the income from that family. A study by Kawiche, (2009) showed that reach families usually do ceremonies with a higher cost compared to poor families which in most cases have requested donation from their relatives families.

The rural households are likely to be poorer than households in urban areas HBS, (2006 and 2010). According to Integrated Labour Force Survey of Zanzibar, people residing in urban areas earn more income as compared to those residing in rural areas for self-employees ILFS, (2006).

Three studies conducted in Peru, India and Zimbabwe revealed that, extending small loans to the poor people mainly women for income generating and self-employment had lessened vulnerability through diversifying income earning sources, building assets and strengthening crisis coping mechanisms. It allowed them to achieve a better quality of life Zaman, (2000). In Ghana, the Dagomba women income generation groups were more likely to own livestock and other valuable assets, despite facing obligations to spend their individually earned incomes on the general consumption needs of the family, compared to their counterparts who did not earn any income. Involvement in the developmental activities was seen as a major strategy through which these women improved economic and social statuses Abu, (1992).

The Rotating Savings and Credit Associations (ROSCAS) in Kenya helped Women in the Mathare Valley by availing credit facilities. With these credit services, women were able to invest in many ventures, send their children to school and either repaired or constructed new homesteads. It is obvious that in the context of the local economy, these women were above average income earners Nelson, (1971). In Uganda, Ochwo's Community Based Savings Micro Finance initiative of an informal savings and credit system in Tororo district has contributed greatly to improving the people's standard of living. Charles saw a need for bicycles and spare parts and started a shop with that merchandize in Tororo town, to which he added a hire purchase service for bodaboda 2 boys who lacked lump sums of money to buy the bicycles, he encouraged small daily repayments for 2 to 3 months, and a 20,000/= premium (interest) was added up to the principle loan of 60,000/= (equivalent to US 30 $). After they paid off the loan, most bodaboda boys continued to make daily small saving deposits with him. He maintained a ledger book and invested the excess

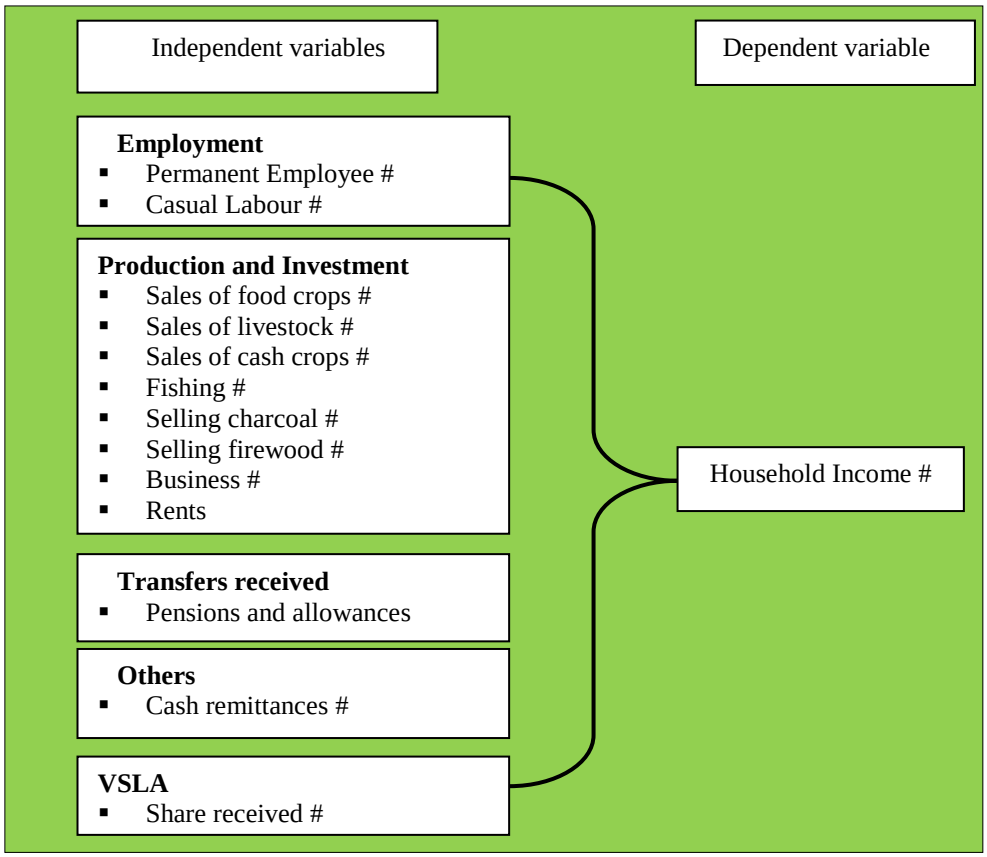
money. Sometimes he would give savers loans at interest rates ranging from 10% - 25% depending on the terms negotiated.

In Zanzibar, the literature evidence on poverty level for the rural household shows that the level of inequality among the household increased both on urban and rural household, the statistics reveals that the Gini coefficient for the rural household is 0.26 in 2005 and 0.28 in 2010. The mean annual per capita household income was TAS 483,520; it is higher (1.4 times) in urban compared to rural, as it is higher (3 times) among males compared to females. Employment for cash and non-farm self-employment are the main sources of households' income and are important even in rural areas. Higher incomes are strongly associated with higher educational levels of earners HBS, (2010).

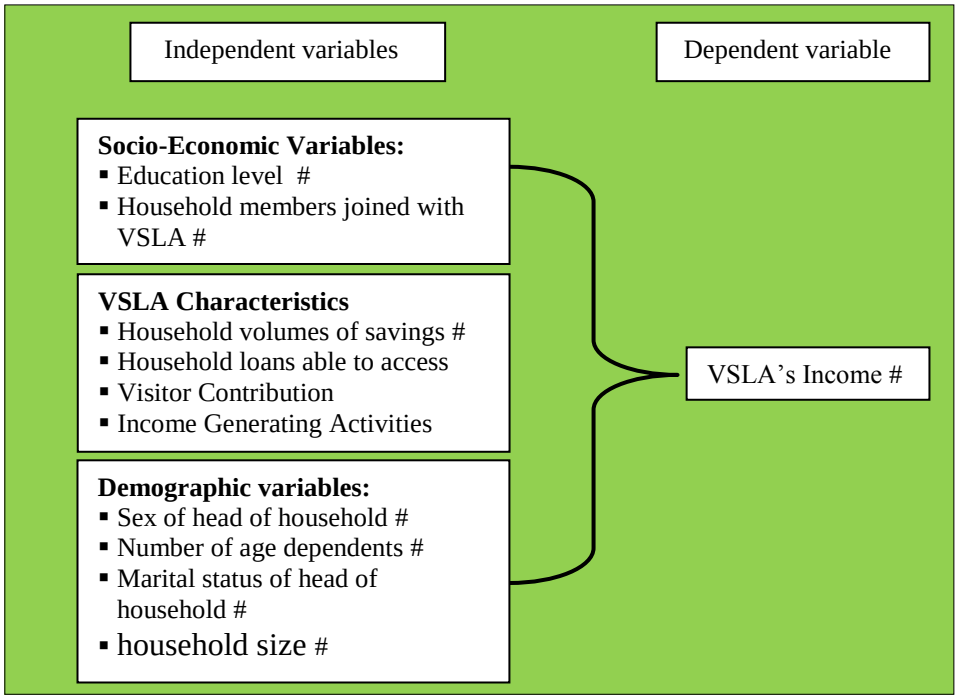
The literature reviewed gives an overview of theoretical and empirical literature review of the study both international and national levels on analyzing the VSLA on household income, and determines the demographic characteristics on household member who joined with group to generate more income.

2.4 Conceptual Framework

Figure 2.1 below presents a conceptual framework, which diagrammatically presents theoretical idea behind this study. The figure describes the determinants of household income by showing factors which have influence on household income. The five groups factors, namely employment, investment and production, transfer received, cash remittance and VSLA all influence household income. Figure 2.2 presents the determinants of income from VSLA where the demographic variables have impact on VSLA income, for instance, reviewed from literature that female headed households earn more as income than male headed households in the group.



Source: Constructed by Author
Variables to be analyzed
Figure 2.1: Conceptual Framework on Household Income



Source: Constructed by Author
Variables to be analyzed
Figure 2.2: Conceptual Framework on Determinants of VSLA

2.5 Econometrics Models

The study used two Multiple linear Regression Models, first model analyzed the household income as dependent variable and other independent variables, and the second model analyzed the determinants of VSLA's income. The Ordinary Least Squares (OLS) technique used to compute the estimated coefficients of the parameters in both two models. The household income econometric model is defined as

$$Y_i = \beta_o + \chi'_{ij}\beta_{ij} + \varepsilon_i$$

Where, the endogenous variable Y_i is the income of the i^{th} household and the independent variables β_0 is constant term, β_{ij} is the estimated coefficient of parameters, ε_i is error term and Xs' variables which were measured in Tanzania Shilling (Tsh/=) defined as:

1. Total Salary in Cash that are received by the household members
2. Total incomes that household members received from selling food crops

3. Total incomes that household members received from Sales of livestock
4. Total incomes that household members received from Sales of cash crops
5. Total incomes that household members received from retail trade
6. Total incomes that household members received from other casual cash earning
7. Total incomes that household members received from remittances
8. Total incomes that household members received from Fishing activity
9. Total incomes that household members received from Selling charcoal
10. Total incomes that household members received from Selling firewood
11. Total incomes (share) that household members received from VSLA's group

The econometric model on determinants of VSLA's income (share) defined as

$$I_i = \alpha_o + \sum_{j=1}^{k} \alpha_{ij} x_{ij} + \mu_i$$

Where, the endogenous variable I_i is the income of VSLA from ith household and the independent variables defined as:

α_o is the constant term of the regression model

α_{ij} is the jth coefficient of the variable X_j

x_{ij} is the jth variable

The variables X^1_j for j = 1, 2, 3 . . . defined below;

X_1 is the sex of the head of household

X_2 is number of age dependents

X_3 is marital status of head of household

X_4 is the household size

X_5 is the size of household members joined with VSLA

X_6 is the education level of the head of household

X_7 is the household volumes of savings to the group

[1] Unit of measurement for these variables are in table 3.1 page 21

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the technical aspects of the study within which the research conducted. It cover the information gathered, type of study, study area, study population, unit of analysis, variable and measurement, sample size and sampling techniques, type and source of data, data collection methods, reliability and validity of data, and finally data analysis.

3.2 Type of Study

Study aims at quantifying relationships existing, the researcher used a cross sectional study. The design selected because of the nature and its advantage such as it is a short study design. It is best suited study, cheap to undertake and useful to obtaining an overall picture as it stands at the time of the study.

3.3 Study Area

The study covers at southern districts in Unguja, the area is identified to collect the information about household member joined with VSLA. The information based on household monthly income, sources of income and factors influence VLSA.

3.4 Study Population

A population comprises of any set of persons or object that possess at least one common characteristic Harder, (1980). A population can be very large or small depending upon the size of the group of persons or objects from which the researcher plans to make inference. Thus a population refers to all members, groups or elements that the researcher hopes to gain information and to represent the real situation of the field in the study, and from which he or she draws conclusions. In this regard, the study population of interest used is members of households joined with VSLA.

3.5 Unit of Analysis

Household is group of people living in the same dwelling and sharing at least one meal per day. In this study, the household taken as the unity of analysis because it is a Centre where all resources generated, organized and managed for economic activities to generate income.

3.6 The Choice of Variables and Measurement

In this study, the variables used are listed and defined below when necessary. The choice and categorization of these variables was based on past studies done by other scholars. Each of the variables was found to be significant in explaining the household income and determinants of VSLA. (Table 3.1)

3.6.1 Household Incomes

Income represents a very important area of consideration when characterizing the poor. The level of income is important not only for the households, but its distribution among household members and various socio-economic groups. Income is difficult to define as it includes several components of which only some are monetary (for example, farm households consume most of their production onsite). Additionally, individuals tend to make false declarations about their income level, which is generally underestimated. Given these limitations we could calculate per capita expenditure per month as a proxy for household income but since the study needs household income by source therefore we asked household to give the approximation of income per month. However, the researcher was collected the information on household expenditure to help on comparability.

3.6.2 Household Employment

There are several indicators that determine household employment. Within this array of indicators, economists focus on the rate of participation in the labor force, the real rate of unemployment, and job changes. In this study, the household employment is taken only as the household member who is paid in month as the salary.

3.6.3 Education

According to human capital models, education is an important dimension of the non-homogeneity of labor. High educational attainment may imply a greater set of employment opportunities and specifically in the rural context, a better awareness of the full potential of new agricultural technologies and associated agricultural practices. Four types of indicators are normally used to characterize education in an analysis of household living standards. These include the number of household members with level of education (No education for a household member, Education completed up to primary level, Education completed up to secondary level and Education completed up to college or university)

3.6.4 Household Size and Structure

This indicator is an important one as it shows a possible correlation between the level of income poverty and household composition. Household composition, in terms of the size of the household and characteristics of its members (such as age), is often quite different for poor and non-poor households. The Zanzibar Household Budget Survey of 2009/10 shows that the rural tend to live with an average family size of 5.4 Generally it is recognized that more healthy, educated, and adult members in a household contribute to their income levels, if household members are not adult and educated, they can become the cause of poverty. Therefore, household size is the total number of member in the household who live together and share at least one meal.

3.6.5 Number of Age Dependency

For a given household size, a number of age dependency is taken as members of household who were not productive, therefore we asked the household to state how many members were dependent from their household.

3.6.6 Age and Gender of Household Head

The age and gender of the household head are also important in determining the attitude toward employment and ultimately income. It is widely believed that the age

and gender of the household head significantly influences rural household income poverty. The age of the household head has a similar role to sex composition. Therefore, age was taken the completed year of birth and gender was taken as the biological species of male or female.

3.6.7 Household Volume of Savings and Loans

The present study was taken household volumes of saving and household loans able to access as very important indicators to analyze the household income poverty, these variables were asked the joined VSLA member to state the amount that they use to save per month and transformed into per annual, however in the case of loans the member was able to loan only two time per twelve month, therefore this variable assumed to be the amount taken per annual.

Table 3.1: Variables and Measurement
List of Variables for the Determinates of VSLA's Income

Dependent Variable
VSLA income (share) per month (Tsh/=)
Explanatory Variables
Sex of head of household, 1 = if Female, 0 = if Male
Marital status of the head of household head, 1 = if Coupling, 0 = if Not Coupling
Education level of head of household, 1 = if Secondary, 0 = otherwise
Number of age dependents, how many unproductive age depend on active persons in the household
Household Size, how many people live and share meals in the household
Members in the household joined with VSLA
household volumes of saving and household loans able to access monthly income (Tsh/=)

3.7 Sample size and Sampling Techniques

This study covered VSLA groups allocated at Southern Unguja, the primary sampling units (PSUs) used are the Villages and ultimate sampling units were individual household members joined with VSLA. Therefore, the study was utilized

stratified random sampling design for clusters (Villages), VSLA groups and individual VSLAs' members. The design confidence level for the research was 95 percent ($Z_{\alpha/2}$ is 1.96), with an error margin (E) of 0.4, the true variance is 9.3 and the total population (members joined with VSLA) is 3959.

Then, the sample size for the finite population is given by

$$n = \frac{Z^2.N.\sigma^2}{(N-1)e^2 + Z^2.\sigma^2}$$

$$n = \frac{(1.96)^2 * 3959 * 9.3}{(3959-1)0.4^2 + (1.96)^2 * 9.3}$$

$$n = 217$$

Substitution of the given information gave a sample size of 217 members who interviewed. The VSLA groups from the villages were selected proportional using the following formula

$$n_v = \frac{n_i}{Nvi} * 69$$

Where n_v = selected VSLA groups in village i

ni = total number of VSLA groups in village i

Nvi = total number of VSLA groups in all villages and

69 = 50 per cent of the VSLA groups (138)

Then, systematic sampling technique used to select n_v groups from each village i. Finally the respondents from each selected groups was picked proportional and interviewed randomly. (Annex A)

3.8 Type, Source and Data Collection

The study used a primary data that had been collected from the VSLA groups allocated at southern districts in Unguja. Structured and unstructured questions in the

Questionnaire were used and the data were collected directly to the head of household found in the VSLA group.

3.9 Reliability and Validity of Data

The validity refer to the extent to which the concept one wishes to measure is actually being measured by particular scale or index Sirkin (1995).The data that were used in this study is expected to be valid and reliable because of their source; coverage and questionnaire which submitted to supervisor who suggested some important adjustments, and therefore, the collected data were used for analysis.

3.10 Data Analysis

Manual editing for blank question, incomplete questionnaire and invalid responses were performed for each of the questionnaires when enumeration exercise completed and necessary action have been taken for the error. Data processing is another stage which involved three stage namely data entry, data cleaning validation and tabulation. Data entry involves the computerization of all information into electronic file. A special computer package called CSPro was used to develop a user interface which simplified the punching of data into the computer at a minimum amount of errors. When all data are entered into the computer, and then were exported from CSPro into SPSS and STATA for starting frequency tabulations that were used for cleaning and validation. These frequency tabulations enable the identification of out of range values, wild codes and missing data. Any necessary corrections were made at this stage to make data valid for analysis. When the data found to be satisfactorily clean and valid we did data management and analyzes those using SPSS and STATA based on the econometrics models.

3.10.1 Diagnostics Tests

During the analysis, all of the important diagnostic tests performed to the dataset to make sure data meet all assumptions and conditions of the regression models. The following tests were done.

Adequacy of Sample Size, the sample size for a data set is very important for generalisability of the results. That is, with small samples the results which obtained could not generalize (cannot be repeated) with other samples. If the results do not generalize to other samples, then they are of little scientific value. Tabachnick and Fidell (2001) give a formula for calculating sample size requirements, taking into account the number of independent variables we use: $N > 50 + 8m$ (where m = number of independent variables). This means that for five independent variables 90 cases will be needed for at least significant results. More cases are needed if the dependent variable is skewed. For stepwise regression there should be a ratio of 40 cases for every independent variable. For the case of this study, there are 11 independent variables which imply that using recommended number of cases by Tabachnick and Fidell; at least 138 cases are required for meaningful results. However, there are more than this number of cases which analyzed in this study.

Outliers on dependent and independent variables, multiple regressions model is sensitive to outliers (very high or very low scores). Checking for extreme scores was part of the initial data screening process. This was done for all the variables, both dependent and independent.

Multicollinearity, this exists when the independent variables are highly correlated, regression analysis is very sensitive to multicollinearity and these certainly don't contribute to a good regression model, so this problem was checked before starting actual analysis.

Normality, Linearity, **Homoscedasticity and Independence of Residuals**, these assumptions were checked from the residuals scatter plots which generated as part of the regression procedure prior to the actual analysis. Residuals are the differences between the obtained and the predicted dependent variable scores. The residuals scatter plots allow for checking: Normality: where the residuals should be normally distributed about the predicted dependent variable scores; Linearity: where the residuals should have a straight-line relationship with predicted dependent variable

scores; Homoscedasticity: where the variance of the residuals about predicted dependent variable scores should be the same for all predicted scores.

CHAPTER FOUR
PRESENTATION OF FINDINGS

4.1Introduction

This chapter presents the results, started with descriptive analysis of income and activities engaged by rural southern households. The analysis follows the differentiation of activities introduced in the previous chapter according to the source of income engaged by the member of the household. Moreover, agricultural self-employment is divided into crop production, cash production, livestock production and the sale of forest products (charcoal and firewood) where employment divided into casual labor, and earning salary. Other variable of interest were business, fishing, remittance earning, share earnings from VSLA, the study was also interested on other source of income apart from the mentioned variables. The twelve different income activities differentiated throughout this chapter was discussed. After illustrating the composition of the total household income over all households it is shown how this mixture changes according to different socio-economic groups. Within this chapter, following the methodology and formulas laid out in chapter two, this chapter presented an analysis of inequality in the household income, where relationships are examined between total household income and household size using the cross sectional data from field. The Lorenz curve and Gini coefficient provided useful information about poverty level for the surveyed rural household. The chapter also presented the estimated parameter of the hypnotized test where by categorical variables were treated as dummy.

4.2 Response Rate and Structure of Data Collection

The response rate was good. As a result, total number of head of household joined with VSLA who returned usable questionnaires were 217 this is equal to 100 per cent of the sample target. Moreover, we able to conduct an interview to some of the respondents to draw up the knowledge on how they manage to run the VSLA programme. Sample of questionnaire for the study was shown in the appendix 2.

4.3 Demographic Characteristics of Respondents

Table 4.1 provides a descriptive summary of the demographic structure of households; it includes spatial distribution of Shehia by household size, age of head of household, age dependent and size of member joined with VSLA. The result shows that on average the composition of members in households were 4.6, however, there was slight variations between geographical areas ranged from 4.3 to 5.7. According to the 2004/05 and 2009/10 HBS, the average household size in rural area was 5.3 and 5.4 respectively. Moreover, the result of household size by district level in which the southern district shown declined from 4.7 in 2004/05 to 4.1 in 2009/10. Based on that result found in two surveys and compared to the size of 4.6 obtained in this research it draw the phenomenon on the information of household size in the southern district is questionable. The variable of age shows on average, head of household who are engaged on VSLA has an age of 38 years, however, the statistics shows that at Kitogani the member on average were in 48 years and in Mtende were 45 years. The rest members in other shehia their age ranged from 34 to 39 (Table 4.1).

The research was not interested to capture the information on age dependency ratio which implies on each dependant is supported by how many active person, the only information was interested within this research to see on average each household how many members are depend from active person. The information on age dependent obtained from this research statistics shows that on average the age dependent was 2.5 which equal to 3 persons round numbers. The result also found every household on average has two members joined with VSLA.

Table 4.1 Demographic Characteristics by Shehia

Shehia	Age	H__Size	VSLA Member	Dependents
Bwejuu	39.3	4.3	1.3	2.1
Jambiani	39.3	4.6	1.6	2.2
Kibuteni	35.4	4.0	1.6	2.7
Kitogani	48.0	4.4	1.2	2.8
Kizimkazi	37.7	4.5	1.5	2.6
Makunduchi	35.6	4.4	1.5	2.6
Mtende	45.2	4.6	1.7	2.4
Muungoni	37.5	4.9	1.9	2.4
Muyuni	34.3	4.5	1.7	2.4
Paje	35.0	4.2	1.2	2.3
Pete	36.4	5.7	1.9	3.2
Grand Total	**38.0**	**4.6**	**1.6**	**2.5**

4.4 Sex of head of household by type of Occupation

Table 4.2 below shows that out of the total respondents 39 per cent were peasant farmers where number of female is 66 and males was 19 and those who are engaged on business equal to 28 per cent. According to 2004/5 HBS more of the rural labour force (39 per cent) is engaged in agriculture, and the 2009/10 HBS shows 38 per cent of rural population was engaged in agriculture. It should be known here that the HBS result on calculating the household engaged on agriculture based on the population aged 15 years and above related to economic activities for main activities while this research, the percentage derived on household engaged on agriculture based on the head of household joined with VSLA.

Table 4.2 Sex by type of Occupation

Sex of Head	Main Occupation					Total
	Business	Civil Servant	Employed in Private Sector	Peasant Firming	Other	
Male	12	10	6	19	8	55
Female	49	7	8	66	32	162
Total	**61.0**	**17.0**	**14.0**	**85.0**	**40.0**	**217.0**
Per cent	**28**	**8**	**7**	**39**	**18**	**100**

4.5 Household Savings and Loans

Table 4.3 below presents the information on the amount which the member of household who joined with group used to save, the amount of loans used to receive

from the group and the amount of income (share) that member earn after completion of the round. However, the data on saving were requested per month then were transformed per annual; this was done to have a unique unit of measurement with other two variables (loans and share) which household gave the information per annual. The statistics show that household share from VSLA is normal distributed in all shehia except for Jozani and Pete where the share seemed to be a little high to compared to the share of other shehia, on average the household allocated at Jozani seen to earn share of Tsh 372,444/= and Pete Tsh 412,464/= which equivalent to annual per capita of Tsh 77,592/= and Tsh 85,930/= respectively. The study noted that the groups or villages allocated at high potential economic area performed well on engaged to the economic activities compared to those groups or villages from low economic potential areas with poor road net works and poor economic activities such Kitogani, members maintain the saving on average about Tsh 112,452/= equal to 9, 317/= per month and able to receive the share of 20,000/= per month. The result also shows that female was saving more compared to male in the group. (Table 4.4)

Table 4.3 Mean Household Loans and Saving by Shehia (Tsh per Annual)

Shehia	Average of Saving	Average of VLSA income
Bwejuu	213,861	317,913
Jambiani	239,449	341,970
Kibuteni	241,200	331,200
Kitogani	271,029	350,571
Kizimkazi	215,867	334,485
Makunduchi	183,735	279,518
Mtende	180,333	287,067
Muungoni	185,676	273,200
Muyuni	238,939	330,472
Paje	249,556	325,778
Pete	227,625	330,244
Grand Total	**217,107**	**314,585**

Table 4.4 Saving and Income by Sex (Tsh per Annual)

Sex	Amount of Saving	VSLA Income
Male	210,558	309,758
Female	219,330	316,223
Total	217,107	314,585

4.6 Household Income by Sources

The study collected information on household's main sources of income, the household were requested to provide the income information by their main source per month, however, some of the respondent could not possible to give the information on some of sources per month and give per annual (for example sales on food crops, livestock and cash crops) . Despite of that, we had converted to get an approximation income per annual in all variables in order to maintain a unique unit of measurement. Table 4.5 shows the distribution of households by main source of cash income. On average, a household in the research area earned an income of around Tsh 823,573/= per annual with all sources of income that were engaged by the member of household. Agricultural self-employed income consists of all own-account activities within the agricultural sector, which is income from crops, livestock, and fishing and forest products together contribute to less than 13 per cent of total household income.

Table 4.5 Household Income by Source (Tsh per Annual)

Source	N	Mean	Std. Deviation
	Statistic	Statistic	Statistic
Salary	38	1,567,895	178,737
Food Crops	79	88,013	55,037
Livestock	59	92,076	70,249
Cash Crops	57	62,825	43,016
Business	125	105,104	83,123
VSLA Share	217	314,585	77,146
Casual Labour	85	66,524	45,042
Remittance	8	24,875	8,790
Fishing	68	78,103	51,003
Charcoal	48	64,354	35,227
Firewood	59	64,169	37,462
Others	63	59,175	48,071

4.7 Household Income by Shehia

Table 4.6 shows that on average the Kitogani household earn more income compared to other Shehia, on average income per annual was Tsh 1,002,285/=, followed by Mtende where household on average earn Tsh 994,844/= per annual. The finding also shows that the household allocated at Kizimkazi on average earn Tsh 598,596/= per annual.

Table 4.6 Household Income by Shehia (Tsh per Annual)

Shehia	Average Income
Bwejuu	940,434.8
Jambiani	804,204.9
Kibuteni	897,400.0
Kitogani	1,002,285.7
Kizimkazi	598,596.4
Makunduchi	796,651.0
Mtende	994,844.4
Muungoni	901,111.8
Muyuni	750,645.6
Paje	694,222.2
Pete	851,806.0
Total	**823,579.9**

4.8 Determinant of VSLA to the Household Income

In conducting this study an assumption was used to justify whether VSLA has or not significant impact to the household income. In our study we test null hypothesis $H_0: \beta_1 = 0$ (VSLA' income have no significant impact to total household income) against alternative hypothesis $H_0: \beta_1 \neq 0$ (VSLA' income have significant impact). The null hypothesis is the frame of reference used to evaluate a claim about a population while the alternative hypothesis specifies the situation if the null hypothesis is false Nurosis, (2006). Also Koutsoyiannis (2007) highlighted that, for t-test if the observed $t^* > t_{\alpha/2}$ with (n-k) degree of freedom, we reject null hypothesis and we do not reject alternative hypothesis, otherwise we do not reject the null hypothesis and reject alternative hypothesis.

The formulated econometric model on determining the impact of VSLA on the total household income was

$$Y_i = \beta_0 + \beta_1 fc + \beta_2 lvsk + \beta_3 cc + \beta_4 bus + \beta_5 cl + \beta_6 fsh + \beta_7 char + \beta_8 fw + \beta_9 vsla + \beta_{10} salary + \beta_{11} rm + \beta_{12} other \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 1$$

Table 4.7 provides the information on each variable corresponding to the number of cases that were missing. It also gave the transformation techniques that were employed to check for normality, then we found that two variables remittance and charcoal were out of the criteria and did not satisfy the criteria of normal distribution.

Table 4.7 Summary of Missing Value

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
lnsalary	38	14.2582	.12343	-1.363	.383	.799	.750
lnfcrops	79	11.1918	.63445	.061	.271	-1.286	.535
lnlstock	59	11.1808	.70604	.227	.311	-.629	.613
lncashcrops	57	10.8083	.73599	-.381	.316	-.304	.623
lnbusiness	125	11.2319	.84811	-.069	.217	-1.011	.430
lnvsla	217	12.6278	.25390	-.297	.165	-.677	.329
lncalabour	85	10.9238	.58189	.601	.261	-.755	.517
lnremittance	8	10.0564	.40986	-1.184	.752	2.452	1.481
lnfishing	68	11.0882	.57945	.575	.291	-.901	.574
lncharcoal	48	10.8731	.78697	-2.688	.343	12.845	.674
lnfirewood	59	10.9351	.50056	.651	.311	-.435	.613
lnothersource	63	10.7296	.71286	.234	.302	-.275	.595
lnhh_income	217	13.4146	.59065	1.064	.165	.250	.329

In order to carry out an analysis; the missing values were imputed with mean substitution techniques within the variable (Table 4.8)

Table 4.8 Summary of Imputed Variables

Source	Mean	Std. Deviation
Ln (hh_Income)	13.4146	.59065
Ln (Salary)	14.2582	.05108
Ln (Food crops)	11.1918	.38126
Ln (livestock)	11.1808	.36586
Ln (Cash crops)	10.8083	.37475
Ln (Business)	11.2319	.64259
Ln (VSLA)	12.6278	.25390
Ln (Casual labour)	10.9238	.36287
Ln (Fishing)	11.0882	.32272
Ln (Fire wood)	10.9351	.25939
Ln (Other source)	10.7296	.38192

Then, according to the nature of presented imputed variables and based on the different statistical test that employed two variables remittance and charcoal were dropped, finally the regression equation became.

$$Y_i = \beta_0 + \beta_1 smean(fc) + \beta_2 smean(lvsk) + \beta_3 smean(cc) + \beta_4 smean(bus) + \beta_5 smean(cl) + \beta_6 smean(fsh) + \beta_7 smean(fw) + \beta_8 vsla \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 2$$

4.9 Estimation Result

A data of 217 households were used to estimate the log linear multiple regression model to check the impact VSLA on household income. The empirical results show the explanatory power of the regression equation, as measured by R^2 to be (R^2 = 0.188). In other words, an average of 18.8 per cent of the variation in the dependent variable (household income) is due to the explanatory variables and the remaining 81.2 per cent is due to other unmentioned variables. The joint or overall test of significance, F-test, is accepted at the 1 per cent level of significance.

Table 4.9 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.433[a]	.188	.148	.54515

a. Predictors: (Constant), lnothersource, lnfcrops, lnsalary, lnfirewood, lnfishing, lncalabour, lnbusiness, lncashcrops, lnlstock, lnvsla
b. Dependent Variable: lnhh_income

Table 4.10 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	14.135	10	1.414	4.756	.000[b]
	Residual	61.220	206	.297		
	Total	75.356	216			

a. Dependent Variable: lnhh_income
b. Predictors: (Constant), lnothersource, lnfcrops, lnsalary, lnfirewood, lnfishing, lncalabour, lnbusiness, lncashcrops, lnlstock, lnvsla

Table 4.11 Estimated Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-13.502	10.987		-1.229	.221
lnsalary	.899	.748	.078	1.202	.231
lnfcrops	.072	.101	.047	.713	.477
lnlstock	.316	.105	.195	3.014	.003
lncashcrops	.027	.102	.017	.269	.788
lnbusiness	.141	.059	.153	2.393	.018
lnvsla	.705	.154	.303	4.582	.000
lncalabour	.203	.104	.125	1.962	.051
lnfishing	-.123	.117	-.067	-1.050	.295
lnfirewood	-.157	.149	-.069	-1.051	.295
lnothersource	-.015	.099	-.010	-.150	.881

a. Dependent Variable: lnhh_income

4.10 Determinants of Demographic Variables on VSLA's Income

In conducting this research an assumption was used to justify whether demographic variables (age of the head of household, household size, age dependents, total member of household joined with VSLA, sex of head of household, marital status, education level and total household amount of saving to the group) have or not significant impact to total VSLA's income, the joint hypothesis is $\boldsymbol{H_0: \beta_i = 0}$ (demographic variable have no significant impact to the total VSLA's income) against alternative hypothesis $\boldsymbol{H_0: \beta_i \neq 0}$ (at least one has significant impact) for i ≠ j. The formulated econometric model based on the hypothesis assumption was

$I_i = \alpha_0 + \alpha_1 Sex + \alpha_2 M\_status + \alpha_3 Edu\_Level + \alpha_4 Age + \alpha_5 H\_size + \alpha_6 A\_dependents + \alpha_7 vsla\_member + \alpha_8 A\_saving$ ……3

Special treatment on categorical data has been done such as one dummy variable from each category of the demographic attributes is necessarily omitted. However, initially when analysis taken place some of the variable were correlated and were not uniform distributed, hence to avoid multicollinearity mechanism of transformation of variable were done and one variable age was dropped from the equation.

Then, the model after transformation was

$$\ln I_i = \alpha_0 + \alpha_1 dSex + \alpha_2 dM\_status + \alpha_3 dEdu\_Level + \alpha_4 SqrtH\_size + \alpha_5 lnA\_dependents + \alpha_6 Sqrtvsla\_member + \alpha_7 ln(A\_saving) \quad \ldots\ldots\ldots\ldots\ldots 4$$

General we assume that, failing to satisfy the multi regression assumption does not mean that our answer is wrong; it means that our solution may under report the strength of the relationship. Therefore, relationship between metric variables was checked by linearity techniques through correlation coefficient which means that we reject the null hypothesis if probability is less than or equal to the level of significant and conclude that independent variable is linear to dependent variable. The relationship between metric and dichotomous variables was checked by homoscedastic, a homoscedasticity was employed using oneway ANOVA by testing the homogeneity of variance. This means that, based on levene test, the probability associated with levene statistic if greater than the level of significance, we fail to reject the null hypothesis and conclude that homoscedasticity assumption is satisfied. Normality were checked by skewness and kurtosis for both dependent and independent variables and concluded that for a variables to be normal distributed should lie between -1 to 1. The techniques that we employed to identify the outlier was running box plot to check for the data that was extreme far from others.

The information presented in Table 4.12 were analyzed without transformation techniques being used, these descriptive analysis were used to justify the result of estimated parameters of regression model. The findings reveals that on average the amount that member in the rural household who joined with savings and loans groups save Tsh 217,106/= per annual equal to Tsh 18,092/= per month where the share receive when round completed was Tsh 314,584/= per annual equal to Tsh 26,215/= per month. Moreover, on average each household has two persons as member of savings groups.

Table 4.12 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
amount of saving	217	120000	384000	217106.76	70122.226
total hh vsla income	217	170000	530736	314584.55	77145.644
total hh vsla member	217	1	4	1.55	.672
household size	217	1	12	4.58	1.701
age depandents	197	1	7	2.47	1.256
Valid N (listwise)	197				

Then, after employed transformed techniques the following estimated results were obtained. All variables were satisfied the assumption of normality although variable A_ saving which kurtosis statistic lie out of range as shown in Table 4.13. The information presented in Table 4.14 shows that two independent variables were linear relation with dependent variable the rest were not.

Table 4.13: Testing for Normality

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
lnage	217	3.5971	.28465	-.082	.165	-.507	.329
lnage_dep	197	.7759	.51982	-.143	.173	-.815	.345
sqrthh_size	217	2.1001	.40773	-.212	.165	.956	.329
sqrtsvla_member	217	1.2197	.25611	.685	.165	-.571	.329
lnA_saving	217	12.2339	.33485	-.159	.165	-1.227	.329
lnvsla_income	217	12.6278	.25390	-.297	.165	-.677	.329
Valid N (listwise)	197						

Table 4.14 Correlation between Dependent and Independent Variables

		lnvsla_income
lnage	Pearson Correlation	.123
	Sig. (2-tailed)	.085
lnage_dep	Pearson Correlation	.108
	Sig. (2-tailed)	.131
sqrthh_size	Pearson Correlation	.112
	Sig. (2-tailed)	.118
sqrtsvla_member	Pearson Correlation	.379**
	Sig. (2-tailed)	.000
lnA_saving	Pearson Correlation	.917**
	Sig. (2-tailed)	.000

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

Listwise N=197

4.11Estimation Result

The study found that there was 20 household have number of person who depend on the active persons was zero, and the variable was not imputed for the missing values. Then, 197 raw data out of 217 was used to estimate the log linear multiple regression model that check the impact of demographic variables on VSLA's income. The empirical results show the explanatory power of the regression equation, as measured by R^2, to be statistical high ($R^2 = 0.854$). In other words, an average of 85.4 per cent of the variation in the dependent variable (natural log of VSLA's income) is due to the explanatory variables and the remaining 14.6 per cent is due to other unmentioned variables. The joint or overall test of significance, F-test, is accepted at the 1 per cent level of significance. The results of the analysis are as follow

Table 4.15 Transformed Descriptive Statistics

	Mean	Std. Deviation
lnvsla_income	12.6289	.24797
dSex	.7462	.43630
dM_Status	.7817	.41413
dE_Level	.5127	.50111
lnage_dep	.7759	.51982
sqrthh_size	2.1665	.34518
sqrtsvla_member	1.2257	.25797
lnA_saving	12.2341	.33016

Listwise N=197

Table 4.16 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.924[a]	.854	.849	.09648

a. Predictors: (Constant), Reference Secondary, lnA_saving, lnage_dep, Reference Married , Reference Female, sqrtsvla_member, sqrthh_size

Table 4.17 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	10.292	7	1.470	157.947	.000[b]
	Residual	1.759	189	.009		
	Total	12.052	196			

a. Dependent Variable: lnvsla_income

b. Predictors: (Constant), Reference Secondary, lnA_saving, lnage_dep, Reference Married , Reference Female, sqrtsvla_member, sqrthh_size

Table 4.18 Estimated Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.328	.269		16.080	.000
lnage_dep	.008	.020	.018	.423	.673
lnA_saving	.663	.022	.883	29.776	.000
sqrthh_size	.007	.031	.009	.217	.828
sqrtsvla_member	.102	.030	.106	3.374	.001
Female	.020	.017	.036	1.212	.227
Married	.029	.017	.049	1.699	.091
Secondary	.014	.014	.028	1.008	.315

Dependent Variable: lnvsla_income

4.12 Inequality in the Household Income

4.12.1 The Lorenz curve

The Lorenz curve is a powerful tool in the analysis of the size distribution of income. The curve is defined as the relationship between the commutative portion of income and the commutative proportion of household size for the case of this research. Let $\pi(x)$ represents the proportion of the household that receive income up to x and $\eta(x)$ represents the proportion of total income received by the same household. The Lorenz curve is then the graphical representation of the parametric relationship between π and η. Then, the graph of the curve is represented in a unit square. The straight line is joining the points (0,0) and (1,1) is called the egalitarian line, because along the line $\pi = \eta$ which means that each household receives the same income.

The survey information given the Lorenz curve as shown below (Figure 4.1), the curve gives the evidence on the inequality situation of rural southern household.

Figure 4.1 Lorenz Curve of the Southern rural Household

4.12.2 The Gini Coefficient

The overall Gini coefficient is applied to produce an estimate of the inequality in the distribution of total household income over the population. The lower the value of the Gini, the lower the inequality in the distribution of income, zero represents absolute equality. The inequality in the distribution of household income was measured using the Gini Coefficient; this is the most commonly calculated inequality statistics and computed as the ratio of the area enclosed by the Lorenz curve and the diagonal line of perfect equality to the total area below the diagonal.

The empirical data give the value of Gini coefficient to the surveyed rural household to be 0.198894 this value shows the relative equality between the household members in rural south. The table below gives the value of Gini coefficient.

Table 4.19 Gini Index

. igini h__size, hsize(totalincome)				
Index : Gini index				
Household size : totalincome				
Variable	Estimate	STE	LB	UB
1: GINI_h__size	0.198894	0.013808	0.171678	.226109

CHAPTER FIVE
DISCUSSION OF THE FINDINGS

5.1 Introduction

This chapter discusses the study findings and gives all statistical and economics interpretations of the study. In this chapter we show the conclusive study model with all studied variables as well as test of all hypothesis involved in this study. For that interpretation make easier for the reader to understand what the study was intended to. The analysis was based on cross-sectional data collected in 2012 from households in Unguja's rural Southern. The Southern Unguja is the majority spectacular example of formulating informal saving and loans association groups in Zanzibar. The study was guided by two hypotheses each of which was studied in empirical chapter of the dissertation.

5.2 Synthesis of the Main Findings

5.2.1 Estimation of Result

Based on the conceptual framework discussed and the econometric model both specified in chapter two, an econometric equation with eight as endogenous variables, five explanatory variables representing ratio scale variables, and three dummy variables for demographic characteristics were estimated using the regression method. To avoid perfect multicollinearity, one dummy variable from each category of the demographic attributes is necessarily omitted. All required conditions such as homogeneity and symmetry were imposed on the system of equation and after employed those techniques one variable age was dropped. In general there is statistically conclusive evidence that demographic characteristics did not affect the income of VSLA. The variable total number of household members who joined with VSLA and amount of money that household used to saving shows an impact. In this section, we discuss the economic interpretation on results from statistics and estimated model.

The value of household size was 4.6 in southern district, based on national survey the value declined from 4.7 to 4.1 as presented in previous, the situation implies whether the growth rate is relative low or migration taken place because of the economies of scale in housing.

The result reveals that majority of the people who live at rural areas engaged on informal saving group were farmers (39.2 per cent) and some were done business (28.1 per cent). Although, the contribution from this sector to the total income was not significant high, the situation economically implies the household were not having agricultural productivity program instead they were involved on peasant farming which has no income benefit.

The potential economic area with economic activities provides the opportunity to earn more income because of available resources. The statistics show that household share from VSLA is normal distributed in all shehia except for Jozani and Pete where the share seemed to be a little high compared to the share of other shehia, on average the household allocated at Jozani seen to earn share of Tsh 372,444/= and Pete Tsh 412,464/= per annual.

5.2.2 The Village Savings and Loans Association Group has Significant Impact on Households' Incomes.

However, literature reviewed stated those variables that were not statistically significant can be valuable if the result would be discussed as far as they defies theory or prior studies or may coefficient loses statistical significance with the introduction of difficult factors, but this research had discussed only statistical test results for all variables that was appeared to be statistically significance. Emphasizing statistically significant findings is especially useful when explain several different independent variables, such as demographic characteristics affect household earnings. This was done because if only some traits associated with earnings are statistically significant, one often emphasize those traits rather than giving equal prominence to all factors.

On estimate the log linear multiple regression model to check the impact VSLA on household income the empirical results was found the explanatory power of the regression equation, as measured by R^2 to be (R^2 = 0.188). In other words, an average of 19 per cent of the variation in the dependent variable (household income) is due to the explanatory variables and the remaining 81 per cent is due to other unmentioned variables. The joint or overall test of significance, F-test, is accepted at the 1 per cent level of significance. The value of R^2 reveals that the data was not close to the regression line and the strength of linear relationship was not strong. The estimated coefficient of the parameters shown in the previous chapter out the ten sources of income only four (household engaged on livestock, business sector, informal savings groups and casual labour) reveled to be economically significance to the total household income, however, the natural logarithm of livestock, business and informal savings activities was significance at 1 per cent level while casual labour was at 5 per cent.

Economic interpretation of the result shows the rural farmer especial those who formulate informal savings groups their total income at household level grow up by 0.316 per unit change on livestock activity, the household engaged on business sector their total income grow up by 0.141 per unit change, and the household engaged on casual labour activity found to grow their income by 0.203 per unit change. The informal savings and loans groups formulated by the household in the rural areas which aims to support life of the community by getting opportunity of receiving loans which transformed on running economic activities were found to have strongly positive impact to the total household income and grow up by 0.705 per unit change taken into account other variables were ceteris paribus. This result was also supported by the descriptive statistics discussed on chapter four (Table 4.5) household Income by source.

5.2.3 The Demographic Characteristics has Significant Impact on VSLA Income

To attempting the second hypothesis on accessing the impact of demographic characteristics, the interpretation of the result based on the impact sizes for each independent variable of interest, showing what they mean in the context of the study question and data. This implies that, the coefficients were interpreted in the expected direction whether large or small in term of sign and magnitude. On estimate the log linear multiple regression ANCOVA model that check the impact of demographic variables on VSLA's income, 197 raw data was used and the empirical results found explanatory power of the regression equation, as measured by R^2, to be statistical high ($R^2 = 0.854$). In other words, an average of 85 per cent of the variation in the dependent variable (natural log of VSLA's income) is due to the explanatory variables and the remaining 15 per cent is due to other unmentioned variables. The joint or overall test of significance, F-test, is accepted at the 1 per cent level of significance. The value of coefficient determination signifies the strongest of positive linear relationship between the endogenous and exogenous variables.

Treatment of dummy variables, female was taken as a reference category, marital status grouped as married (couple) while single and widow (non couple) in which married was taken as reference category whereby the last dummy variable was education level which has two categories namely, non and primary (low level) and secondary as reference category. The statistics shows that only ratio scale data were economically significance at 1 per cent level, this result reflects the economic implication that demographic characteristics has no significant impact to the rural famer who engaged on informal savings and loans association groups, in other word the income gained from savings groups was basically depend on how size of the member from household joined with groups and amount of savings that household members invest. Controlling on other demographic variables, the partial estimated coefficient on variable natural logarithm of saving shows that income of household grown up by 0.663 per unit change, where by the square root of joined members the income of household grown up by 0.102 per unit change, The differential coefficient intercept was significance at 1 per cent level, this result economically implies that

controlling other variables the household would have been in position to earn the income (share) of VSLA on average percent of Tsh 4.328 per annual based on other economic activities.

5.2.4 The magnitude of Inequality in the Distribution of Household Income

The Lorenz curve and Gini coefficient was used to analyze the magnitude of inequality, the result from the empirical data gave the value of Gini coefficient to the surveyed rural household approximately 0.2 this value shows the relative equality between the household members in rural south district. Gini Index is a complex inequality measure and, therefore, its characteristic to give summary of information on the income distribution and that of not giving any information about the characteristics of the income distribution, like location and shape, since income distribution was the missing factor on evaluating welfare of the people in southern district, we therefore computed the Gini index specifically to measure that factor, which has an implications for the economic health and national policy of a nation. More over this measure does provide a way to quantify and track the direction in which a society is moving, which may resulted open the door for dialogue and potential solutions. The general implication of Gini index is perfect inequality if the survey people of southern district could result Gini ratio of reading 1, which could indicates that every household had exactly big difference amount of money earning, the vice versa is true, If everyone had exactly the same amount of money, the index would register a reading of 0. However, in this research the reading of Gini index was approximately 0.2 indicates that the rural farmer household has relatively equality, meaning that income that they earning are more likely the same to every house. Conversely, the Gini index that was calculated in national survey using expenditure data, the reading of southern district was 0.23 in 2004/05 to 0.24 in 2009/10, comparison of this result implies that the magnitude of the Gini index is the same between times of interval.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND POLICY IMPLICATION

6.1 Introduction

Household Income Poverty is widespread in Tanzania including Zanzibar, with great incidence in rural areas where the high proportion of the population lives and work. Livelihood strategies among rural households in the Southern Unguja are predominantly based on agricultural activities, but income diversification is important not only from cash crops, food crops, livestock and forest but also in other economic activities. Due to income constrains among the rural household to improve these economic activities, the farmers were organized and formulated saving and loans groups that able to get loans partly used as input in the production activity. Despite of this phenomenon, we are still asked a question, were the groups helpful. The answer to this question has a lot to say about the impact of groups on household income poverty, and may generate insights about policies and programs to enhance this impact. The generally purpose of this study is to help guide government institution and other stakeholders in their decisions to help rural farmers to increase income and minimize poverty. Specific research objectives are as follows. First, we seek to be aware on sources of income and then we developed econometric model to understand the impact of VSLA to the household income. Second, we develop econometric ANCOVA model to analyze the significant impact of demographic characteristics to the VSLA income, the rational of this model to see whether the demographic characteristics are important. However, both two models were having the same aspects on analyzing the determinants of household income. Finally, we run the Lorenz curve and calculate the Gini index to see the level of poverty among the household.

This study used empirical cross sectional data that were collected from the head of household who engaged on saving and loans associations groups, a total of 217 raw data were collected with not less than 20 variables. The data collected were used for econometric analysis and were special collected to undertake this household analysis where the regression model may help to develop policy stimulation. In Section 6.2

we summarized the research findings. Section 6.3 presented a conclusion and policy implications and section 6.4 presented the limitations and future Research

6.2 Summary of Findings

In this Section, we summarize the key research findings of the study. Therefore, we started with the findings on demographics descriptive and income analysis, followed by the econometric analysis of determinants, and finally the inequality derived from the household.

The result shown on average the composition of members in households are 4.6, however, there is slight variations among the shehia ranged from 4.3 to 5.7. The national household budget survey conducted in 2004/05 and 2009/10 shown that on average household size in rural area was 5.3 and 5.4 respectively. Nevertheless, in southern Unguja household size declined from 4.7 in 2004/05 to 4.1 in 2009/10. We then concluded that, despite of different approaches, methodology and sample size picked among these surveys the information of household size in the southern district is still questionable. Age of the head of household who are the members of the saving loans groups was 38 years on average, although some of the shehia for example at Kitogani the member shows that on average were in 48 years and in Mtende were 45 years. The rest shehia age of the members ranged from 34 to 39. This study did not calculate age dependency ratio as a measure of productive persons to unproductive persons, alternatively it was only interested to see on average each household how many members are depend from productive persons. The information of age dependent obtained from this study was on average every household there was three dependents. It was interesting to see the rural household on average each household has two members joined with VSLA group.

The information obtained in this study about per cent of the head of household who engaged on agriculture and compared with those presented in other national survey almost was in the same magnitude. This study, 39 per cent were shown head of household were peasant farmers where number of female was 66 and males was 19

and those who are engaged on business equal to 28 per cent. Conversely, in 2004/5 and 2009/10 HBS more of the rural labour force 39 per cent and 37.8 per cent of rural population was engaged in agriculture respectively. It should be known per cent of household engaged on agriculture from HBS was based on the population aged 15 years and above related to economic activities for main activities while this study, the percentage derived on household engaged on agriculture based on the head of household joined with VSLA.

The study collected information on household's main sources of income, the household were requested to provide the income information by their main source per month, but, some of the respondent could not possible to give the information on some of sources per month and give per annual. Despite of that, we had converted to get an approximation income per annual in all variables. On average, a household earned an income of around Tsh 823,573/= per annual with all sources of income that are engaged by the member of household, agricultural self-employed income consists of all own-account activities within the agricultural sector, which is income from crops, livestock, and fishing and forest products together contribute to less than 13 per cent of total household income. However, salary in cash took high proportion but was not statistical significance to the total household income, this might be a reason of household receive monthly salary was very few (18 per cent).

The information presented on the amount which the member of household who joined with group used to save, the amount of loans used to receive from the group and the amount of income (share) that member earn after completion of the round. It should be well known that the data on saving were requested per month then were transformed per annual; this was done to have a unique unit of measurement with other two variables (loans and share) which household gave the information per annual. The statistics show that household share from VSLA is normal distributed in all shehia except for Jozani and Pete where the share seemed to be a little high compared to the share of other shehia, on average the household allocated at Jozani seen to earn share of Tsh 372,444/= and Pete Tsh 412,464/= per annual equivalent to

annual per capita of Tsh 77,592/= and Tsh 85,930/= respectively. The study noted that the groups or villages allocated at high potential economic area performed well on engaged to the economic activities compared to those groups or villages from low economic potential areas with poor road net works and poor economic activities such Kitogani members maintain the saving on average about Tsh 112,452/= equal to 9, 317/= per month and able to receive the share of 20,000/= per month. The result also shows that female was saving more compared to male in the group.

On estimate the log linear multiple regression model to check the impact VSLA on household income 217 raw data were used. The empirical results shown the explanatory power of the regression equation, as measured by R^2 to be ($R^2 = 0.188$). In other words, an average of 18.8 per cent of the variation in the dependent variable (household income) is due to the explanatory variables and the remaining 81.2 per cent is due to other unmentioned variables. The joint or overall test of significance, F-test, is accepted at the 1 per cent level of significance.

The study found 20 household have no dependent person, and the variable was not imputed for the missing values. In that case, 197 raw data out of 217 was used to estimate the log linear multiple regression model that check the impact of demographic variables on VSLA's income. The empirical results show the explanatory power of the regression equation, as measured by R^2, to be statistical high ($R^2 = 0.854$). In other words, an average of 85.4 per cent of the variation in the dependent variable (natural log of VSLA's income) is due to the explanatory variables and the remaining 14.6 per cent is due to other unmentioned variables. The joint or overall test of significance, F-test, is accepted at the 1 per cent level of significance.

The Lorenz curve and Gini coefficient was used to analyze the magnitude of inequality, the result from the empirical data give the value of Gini coefficient to the southern rural household an approximately 0.2; this value shows the relative inequality between the household members in rural south.

6.3 Conclusions

This study has addressed three important issues, the impact of VSLA on household income, the impact of demographic attributes on VSLA income and inequality on income distribution. The first model portrays share of VSLA has significance impact to the total household income at 1 per cent significant level. The second model Savings portray to have impact to the income at 1 per cent level and VSLA member by 5 per cent of significance level therefore we are convinced with this result that household's ability to improve its income is affected by formulating informal saving group, size of the member who joined on saving groups and access for the member to save per month. It was surprising the second model did not signify the impact of demographic characteristic to the VSLA income, this implies that, sex, and marital status of the head of household has no relation to the earning obtained from the group.

The magnitude of the Gini coefficient that was determined from the field data was 0.2, this number was almost the same with the coefficient shown in the national household budget survey report on both period. That is, in southern the coefficient of Gini in 2004/05 was 0.23 and in 2009/10 was 0.24, this situation implies that there is no difference for these coefficients. The econometric interpretation of the coefficient implies that the level of equality distribution to the rural people in southern Unguja are relatively which mean that income that they get was normal distributed. Moreover, Gini index can be compared to gross domestic product (GDP) figures in the sense that if GDP increases we assume the people in a country are doing better.

6.4 Policy Implications

The magnitude of the income equality in the southern Unguja was a relatively, therefore this study recommends that the government should redistribute wealth through social programs, intervening taxation policies to the micro financial institutions so that could influence the VSLA groups to get the benefit loans that later on can transform the wealth of individual household. This study also recommends the rural famer to increase more number of groups in other districts.

6.5 Limitations and Future Research

This study does not answer all the questions related to demographic attributes and income inequality. There were numerous unanswered questions towards identifying the core sources of inequality in income and the impact on demographic characteristics. One major limitation of the data set is that missing values in all variables of source of income, data does not vary adequately if were imputed. This problem could affect the precision of the parameters estimated.

Second limitation is the measuring inequality distribution using income data, the possibility of household to state the actual income of the household was doubtable therefore, and inequality measurement based on current income alone is inadequate. Rather, inequality based on expenditures is better than the inequality measured based on income. This study can be expanded to learn more about household income using a better methodology and data set. The impact of demographic characteristics can be analyzed more effectively using true panel data. The main advantage of panel data, compared to a single cross-section is that it allows one to control for temporally persistent differences among individuals that in many instances may bias estimates obtained from cross-sections.

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Appendices

Annex A: Determination of Sample Size

Table below summarize the selection of sample from the VSLA groups

JOZANI CREDIT AND DEVELOPMENT ORGANIZATION (JOCDO)
JOCDO PORTFOLIO AS AT JUNE 2012

			Members						
	Group/shehia	**Village**	**M**	**F**	**Total**	**PSUs**	**SGM**	**HHM**	**SHHM**
	Wilaya ya kusini								
	Pete/jozani								
1	Amani	Pete	10	20	30				5
1	Tujikomboe	Pete	3	27	30				
1	Umojaninguvu	Pete	9	21	30				
1	Twendenawakati	Jozani	13	14	27				4
1	Sisikwasisi "A	Jozani	9	18	27				
1	Ari mpya	Jozani	11	15	26				
1	Neema	Jozani	10	20	30				5
1	Matumaini	Jozani	8	22	30				
1	Sisikwasisi "B	Jozani	7	22	30				
1	Mikarafuuni	Jozani	5	13	18				3
10	**TOTAL**		**85**	**192**	**278**	**4**	**105**	**16**	**16**
	KITOGANI								
1	Kutoanimoyo	Kitogani	10	20	30				5
1	TumuombeMungu	Kitogani	7	23	30				
1	Umojaninguvu	Kitogani	7	21	28				
1	Sulihisho	Kitogani	8	22	30				5
1	Tumefahamu	Kitogani	20	10	30				
1	Tubabadilike	Kitogani	11	16	27				
1	Jamboletu	Kitogani	7	22	28				4
7	**TOTAL**		**70**	**134**	**203**	**3**	**88**	**14**	**14**
	MUUNGONI								
1	Mshikamano	Muungoni	13	17	30				5
1	NiaNjema	Muungoni	5	25	30				
1	ImaniMoja	Muungoni	4	26	30				
1	Tujikombowe	Muungoni	8	21	29				4
1	Tuelewane	Muungoni	6	20	26				
1	Safari Njema	Muungoni	25	5	30				

1	Hakunamatata	Muungoni	4	15	19				3
1	Kitadumu	Muungoni	12	18	30				
1	Yarabitunusuru	Muungoni	9	18	27				
1	Tuwesafi	Muungoni	9	21	30				5
1	Kitaendelea	Muungoni	7	23	30				
1	TumuombeMungu	Muungoni	3	25	28				
12	**TOTAL**		**105**	**234**	**339**	**4**	**108**	**17**	**17**
	MUYUNI								
1	Bora Ukweli	Muyuni	13	17	30				5
1	TusafiNiazetu	Muyuni	14	16	30				
1	Linganisheni	Muyuni	6	21	27				
1	Tusichekane	Muyuni	11	19	30				5
1	HatunaUbaguzi	Muyuni	11	19	30				
1	Tupendane	Muyuni	9	21	30				
1	Uvivumwiko	Muyuni	10	20	30				5
1	TuwenaMoyo	Muyuni	4	19	23				
1	Hatunausumbufu	Muyuni	15	15	30				
1	Hatunajeuri	Muyuni	11	18	29				4
1	Tuwesawa	Muyuni	5	23	28				
1	Mambo hadharani	Muyuni	0	16	16				
1	Nianjema	Muyuni	9	21	30				5
13	**TOTAL**		**118**	**245**	**363**	**5**	**149**	**23**	**23**
	KIZIMKAZI								
1	Ttusichoke	k/mku	7	18	25				4
1	Hatutaki Shari	k/mku	7	23	30				
1	Tupendane	k/mku	4	26	30				
1	Hurumahaijengi	k/mku	5	25	30				5
1	Majungusimtaji	k/mku	4	26	30				
1	Tuheshimiane	k/mku	2	28	30				
1	SubiraniNjema	k/mku	0	30	30				5
1	Molatusaidie	k/Dimb	13	17	30				
1	Nurunjema	k/Dimb	5	25	30				
1	UmojaniNguvu	k/Dimb	5	25	30				5
1	Nyumahaturudi	k/Dimb	5	25	30				
1	Tupendane	k/Dimb	4	23	27				
12	**TOTAL**		**61**	**291**	**352**	**4**	**115**	**18**	**18**
	KIBUTENI								
1	Tujikaze	kibuteni	18	12	30				5
1	Maendeleo	kibuteni	3	27	30				
1	Mwanzomgum	kibuteni	7	23	30				
1	Tupendane	kibuteni	12	13	25				

4	**TOTAL**		**40**	**75**	**115**	**1**	**30**	**5**	**5**
	MAKUNDUCHI								
1	Jambonia	Miwaleni	5	22	27				4
1	Tuwezeshe	Kusini	9	12	21				
1	TusifeMoyo	Tasani	3	26	29				
1	Tushirirane	Tasani	3	15	18				3
1	Ushkajimgumu	Kijini	0	30	30				
1	Wemahauozi	Kijini	2	28	30				
1	Tujifunze	Kijini	1	23	24				4
1	Kherinjema	Kijini	6	24	30				
1	Nianjema	Kijini	1	29	30				
1	Mtajiwamasikini	Kijini	6	24	30				5
1	Mwanzomgumu	Kijini	7	21	28				
1	Tusikorogane	Kijini	6	24	30				
1	Tuwenamoy	Mzuri	4	26	30				5
1	Rizikipopote	Mzuri	6	13	19				
1	Tusikosane	Mzuri	7	23	30				
1	Shukurani	Mzuri	4	22	26				4
1	Tunajarubu	Mzuri	7	23	30				
1	Hatupotezi	Mzuri	5	25	30				
1	Tuwembele	Mzuri	6	24	30				5
1	Tulizamoyo	Mzuri	9	21	30				
1	Memayao	Mzuri	1	29	30				
1	Tuwewakwe	Kajengwa	3	25	28				4
1	Tuwaminiane	Kajengwa	1	29	30				
1	Yatakamoyo	Kajengwa	3	27	30				
1	Tunajarubu	Kajengwa	4	23	27				4
1	Tusichekane	Kajengwa	4	24	28				
1	Apewaehapokonyek	Kajengwa	5	25	30				
1	Mwanzomgumu	Kajengwa	2	28	30				5
1	Yarabisalama	Kongoni	7	23	30				
1	Tuaminiane	Kiongoni	7	23	30				
1	Nianjema	Nganani	4	17	21				3
1	Nafuuyetu	Nganani	1	29	30				
1	Bihimoyo	Nganani	7	23	30				
1	Ubinaadamukazi	Nganani	8	22	30				5
34	**TOTAL**		**154**	**802**	**956**	**12**	**321**	**49**	**49**
	MTENDE								
1	Mwanzomgumu	Mtende	30	0	30				5
1	Tunajikongoja	Mtende	26	4	30				
1	Tunasongambele	Mtende	27	3	30				
1	Naweunahusika	Mtende	23	7	30				4

1	Tujitahidi	Mtende	21	6	27				
5	**TOTAL**		**127**	**20**	**147**	**2**	**60**	**9**	**9**
	PAJE								
1	Tuambizaneukweli	Paje	1	29	30				5
1	Jamboniasafi	Paje	8	22	30				
1	SiriMoyonimwetu	Paje	4	17	21				
1	RizikizinaMola	Paje	5	24	29				4
1	Subira mina rahmani	Paje	5	22	27				
5	**TOTAL**		**23**	**114**	**137**	**2**	**59**	**9**	**9**
	JAMBIANI								
1	SoteSawa	Paje	5	25	30				5
1	Tujitahidi	Paje	4	26	30				
1	Tushirikiane	Paje	10	20	30				
1	HatunaTabu	Paje	7	23	30				5
1	Mpinzanisimwenzet	Paje	7	33	40				
1	HatujaliFitina	Paje	3	27	30				
1	Maskininaemtu	Paje	0	21	21				3
1	Mashirikiano	Paje	7	23	30				
1	TuwePamoja	Paje	7	23	30				
1	Subiraninjema	Paje	2	28	30				5
1	YarabiSalama	Paje	2	28	30				
1	HiariyaMoyo	Paje	3	27	30				
1	Nianjema	Paje	4	26	30				5
1	TupeMoyo	Paje	7	23	30				
1	UmojaniNguvu	Paje	2	25	27				
1	Jambo la khiari	Paje	5	25	30				5
1	Mwanzomgumu	Paje	5	25	30				
1	Mweyenguvumpishe	Paje	3	26	29				
1	Sisikwasisi	Paje	1	23	24				4
1	Haturudinyuma	Paje	2	28	30				
1	Muwezanimola	Paje	0	30	30				
1	Tunashukurukwahil	Paje	0	28	28				4
22	**TOTAL**		**86**	**563**	**649**	**8**	**223**	**34**	**34**
	BWEJUU								
1	MwanzoMwema	Bwejuu	6	24	30				5
1	Hatuyumbi	Bwejuu	4	26	30				
1	RizikiPopote	Bwejuu	3	27	30				
1	Usilolijua	Bwejuu	8	22	30				5
1	MpewaHapo	Bwejuu	4	26	30				
1	HaturudiNyu	Bwejuu	6	24	30				
1	HidayaYetu	Bwejuu	11	19	30				5

1	SongaMbele	Bwejuu	7	23	30				
1	Hatujafahamu	Bwejuu	25	5	30				
1	Tumefahamu	Bwejuu	5	25	30				5
1	Nianjema	Bwejuu	4	26	30				
1	Tunabahatisha	Bwejuu	7	23	30				
1	YarabiSalama	Bwejuu	4	26	30				5
1	Tujiaminishe	Bwejuu	7	23	30				
14	**TOTAL**		**101**	**319**	**420**	**5**	**150**	**23**	**23**
138	**G. TOTAL**				**3,959**	**69**	**1,408**	**217**	**217**

Source: Jozani Credit and Development Organization, Zanzibar

Annex B: Selected Research Instrument

The purpose of this questionnaire is to gather information about your Household, relevant to my research title: ***an assessment of village savings and loans associations on household income at southern Unguja.*** The information provided will be used purely for academic purpose, and will be treated confidentially. So I humbly request you to provide the information requested as honestly as possible

A: GENERAL INFORMATION

A1	Date and time of interview	
A2	Place of interview	
A3	Name of the respondent	
A4	Village	
A5	Location	
A6	Name of group	

B: DEMOGRAPHIC INFORMATION

Sex	Marital Status	Education Level	Age	Household Size	Size of Dependent

Sex: 1=Male; 2=Female
Marital Status: 1=Married, 2=Widowed, 3=divorced/separated, 4= Single (Never married)
Education Level: 1=none, 2= Primary, 3=Secondary 4= College (certificate/diploma), 5=University
Household Size: All members living and eating from the same household

C: SOCIO-ECONOMIC INFORMATION

C1	What is your main occupation?	(1)Business (2) civil servant (3) employed in the private sector (4) Peasant farming (5) Other (Specify)_____	
C2	What is your secondary occupation	1) None (2)Business (3) civil servant (4) employed in thee private sector (5) Peasant farming (6) Other (Specify)_____)	

C3	Approximately how much do you earn from all sources in a month?	

Source	**Tsh.**	**Source**	**Tsh.**
Wages or salaries in cash		Casual cash earning	
Sales of food crops		Cash remittances	
Sales of livestock		Fishing	
Sales of cash crops		Selling charcoal	
Business		Selling firewood	
VSLA (share)		Other (Specify)	

C4	If married What is the main occupation of your spouse	1) Business (2) civil servant (3) employed in the privatesector (4) Peasant farming (5) Other (Specify)_____	
C5	Approximately how much does your spouse earn in a month?		

Source	**Tsh.**	**Source**	**Tsh.**
Wages or salaries in cash		Casual cash earning	
Sales of food crops		Cash remittances	
Sales of livestock		Fishing	
Sales of cash crops		Selling charcoal	
Business		Selling firewood	
VSLA (share)		Other (Specify)	

C6	Does household has any other member works (if no, skip to D)	1) yes (2) No	
C7	If yes What is the main occupation of your member	1) Business (2) civil servant (3) employed in the privatesector (4) Peasant farming (5) Other (Specify)_____	
C8	Approximately how much does your entire members of the household earn in a month?		

Source	**Tsh.**	**Source**	**Tsh.**
Wages or salaries in cash		Casual cash earning	
Sales of food crops		Cash remittances	
Sales of livestock		Fishing	
Sales of cash crops		Selling charcoal	
Business		Selling firewood	
VSLA (share)		Other (Specify)	

D: VSLA INFORMATION

D1	How many household member joined with VSLA group Male: …… Female: …….		
D2	In the last six months have any one sought for a loan from VSLA group in order to finance either household expense or any income generating activity? 1) yes 2) No (If no skip to D5)		
D3	If yes, how much?		
D4	If yes, what type of business	(1) retail shop (2) food vending (3) Tailoring shop (4) Vegetable selling(5) Charcoal selling (6) Other (Specify)	
D5	Give your reasons for joining a VSLA group	(1)To start a business (2) To boost business (3) To pay back another loan (4) To meet some other household needs including school fees (5) Other (specify)_____	
D6	How much do you save?		
D7	Approximate how much does your household spend per month		
D8	Approximately the total income of your household per month		

E: Poverty Alleviation (Usefulness of VSLA model)

E1	Briefly describe your opinion about usefulness of VSLA model in the Livelihoods of Members

Annex C: Frequency Tables

sex of respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	55	25.3	25.3	25.3
	Female	162	74.7	74.7	100.0
	Total	217	100.0	100.0	

marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	170	78.3	78.3	78.3
	Widow	38	17.5	17.5	95.9
	Not married	9	4.1	4.1	100.0
	Total	217	100.0	100.0	

education level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	10	4.6	4.6	4.6
	Primary	97	44.7	44.7	49.3
	Secondary	110	50.7	50.7	100.0
	Total	217	100.0	100.0	

sex of respondent * marital status Crosstabulation

Count

		marital status			Total
		Married	Widow	Not married	
sex of respondent	Male	49	5	1	55
	Female	121	33	8	162
Total		170	38	9	217

sex of respondent * education level Crosstabulation

Count

		education level			Total
		None	Primary	Secondary	
sex of respondent	Male	0	23	32	55
	Female	10	74	78	162
Total		10	97	110	217

Source	SS	df	MS	Number of obs =	197
				F(8, 188) =	137.47
Model	10.2921367	8	1.28651709	Prob > F =	0.0000
Residual	1.75937417	188	.009358373	R-squared =	0.8540
				Adj R-squared =	0.8478
Total	12.0515109	196	.0614873	Root MSE =	.09674

lnvsla_inc~e	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
dsex	.0201782	.0167984	1.20	0.231	-.0129595	.0533158
dm_status	.029403	.0177924	1.65	0.100	-.0056953	.0645013
de_level	.0140562	.0142797	0.98	0.326	-.0141128	.0422252
sqrtsvla_m~r	.1018303	.0304027	3.35	0.001	.041856	.1618046
sqrthh_size	.0066396	.0306726	0.22	0.829	-.053867	.0671462
lnage_dep	.0083839	.0200113	0.42	0.676	-.0310915	.0478594
lnage	-.00005	.0265021	-0.00	0.998	-.0523298	.0522298
lna_saving	.6629337	.0227891	29.09	0.000	.6179784	.707889
_cons	4.327764	.2728404	15.86	0.000	3.789542	4.865986

. linktest

Source	SS	df	MS	Number of obs =	197
				F(2, 194) =	569.75
Model	10.2982377	2	5.14911884	Prob > F =	0.0000
Residual	1.75327322	194	.009037491	R-squared =	0.8545
				Adj R-squared =	0.8530
Total	12.0515109	196	.0614873	Root MSE =	.09507

lnvsla_inc~e	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
_hat	-2.025113	3.682098	-0.55	0.583	-9.287194	5.236969
_hatsq	.1199789	.1460309	0.82	0.412	-.168033	.4079908
_cons	19.06224	23.20439	0.82	0.412	-26.70303	64.82752

. vif

Variable	VIF	1/VIF
sqrthh_size	2.35	0.425941
lnage_dep	2.27	0.441261
sqrtsvla_m~r	1.29	0.776208
lna_saving	1.19	0.843420
lnage	1.17	0.851634
dm_status	1.14	0.879449
dsex	1.13	0.888876
de_level	1.07	0.932473
Mean VIF	1.45	

	lnvsla~e	dsex	dm_sta~s	de_level	sqrtsv~r	sqrthh~e	lnage_~p	lnage	lna_sa~g
lnvsla_inc~e	1.0000								
dsex	0.0653	1.0000							
dm_status	-0.0234	-0.1670	1.0000						
de_level	0.0225	-0.0785	-0.0972	1.0000					
sqrtsvla_m~r	0.3794	-0.1879	-0.0848	0.0990	1.0000				
sqrthh_size	0.1116	-0.1486	0.1298	0.0642	0.2746	1.0000			
lnage_dep	0.1081	-0.1549	0.1340	0.0534	0.1712	0.7390	1.0000		
lnage	0.1231	-0.0810	0.2400	-0.2212	-0.0588	-0.0149	-0.0654	1.0000	
lna_saving	0.9166	0.0728	-0.0662	-0.0118	0.3126	0.0650	0.0713	0.1451	1.0000