

**THE ROLE OF INCOME GENERATING GROUPS IN POVERTY REDUCTION
IN KIGOMA DISTRICT, TANZANIA**

BY

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ABSTRACT

The situation of low income in Kigoma District is persistent in spite of some people being members of income generating groups (IGGs). There is limited empirical information on the performance of IGGs. This leads to mixed views with regard to performance of IGGs. The main objective of this study was to determine the contribution of IGGs to the reduction of household income poverty in Kigoma District. The specific objectives of the study were to identify Income-Generating Activities (IGAs) done by households which were in IGGs and those which were not; record monetary values of products produced and services provided by households which were in IGGs and those which were not in 2009/10; and determine impacts of acreage per capita, monetary value of credit per capita, costs of production and service provision per capita, and gross monetary value per capita of products produced and services provided on Net Household Product (NHP) per capita. This study used data collected from a sample of 128 households from November 2010 to January 2011. Both purposive and simple random sampling techniques were used. Data were analysed by using the Statistical Package for Social Sciences (SPSS). Independent samples t-test and multiple linear regression models were employed. The results showed that the mean NHP per capita among households which were in IGGs and among households which were not were Tsh. 115 698 and Tsh. 112 991, respectively. The difference in the NHPs was not significant ($p = 0.910$). The mean NHP per capita in MHHs and FHHs were Tshs. 137 154 and Tsh. 73 684 respectively and significantly different ($p = 0.010$) at the 1% level of significance. The results also indicated that gross monetary value of products produced and services provided was the variable which had the biggest and most significant impact ($\beta = 1.473$, $p = 0.000$) on NHP per capita. Based on the findings it is concluded that the higher the gross monetary value of products produced and services provided by the household, the higher the net household product per capita. It is also concluded that membership in IGGs has positive

impact on NHP per capita and thus contributes to income poverty reduction. Therefore, it is recommended that development facilitators at different levels should build capacities of IGGs and strengthen supervision and monitoring of IGAs done by people in IGGs so that the IGGs may contribute more to poverty alleviation.

DECLARATION

I, MSAFIRI THADEO NZUNURI, do hereby declare to SENATE of Sokoine University of Agriculture that this dissertation is my original work done within the period of registration and that it has neither been submitted nor being concurrently in any other institution.

Msafiri Thadeo Nzunuri
(M.A. Candidate)

Date

The above declaration is confirmed by

Dr. Kim Abel Kayunze

Date

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DEDICATION

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TABLE OF CONTENTS

ABSTRACT.....	ii
DECLARATION.....	iv
COPYRIGHT.....	v
ACKNOWLEDGEMENTS.....	vi
DEDICATION.....	viii
TABLE OF CONTENTS.....	ix
LIST OF FIGURES.....	xi
LIST OF APPENDICES.....	xii
LIST OF ABBREVIATIONS.....	xiii
CHAPTER ONE.....	1
1.0 INTRODUCTION.....	1
CHAPTER TWO.....	12
2.0 LITERATURE REVIEW	12
CHAPTER THREE.....	35
3.0 RESEARCH METHODOLOGY.....	35
CHAPTER FOUR.....	41
4.0 RESULTS AND DISCUSSION.....	41
CHAPTER FIVE.....	67
5.0 CONCLUSION AND RECOMMENDATIONS.....	67
REFERENCES.....	74
APPENDICES.....	86

LIST OF TABLES

Table 1: Regional poverty estimates.....	17
Table 2: Headship of households by village of residence (n = 128).....	41
Table 3: General overview of education of respondents (n = 128).....	45
Table 4: Household size of respondents by village of residence (n = 128).....	48
Table 5: Main income generating activities of respondents.....	50
Table 6: Other income generating activities of respondents (n = 106).....	53
Table 7: Monetary values of products produced per household in 2009/10.....	54
Table 8: Monetary values of sale products and services provided per household in 2009/10.....	56
Table 9: Access to credits, extension services and business training	58
Table 10: Access to economic services by respondents.....	60
Table 11: Extension advice pieces provided to respondents (n = 44).....	61
Table 12: Business advice pieces provided to respondents (n = 17).....	62
Table 13: Results from independent samples t-test analysis.....	63
Table 14: Results from regression analysis.....	64

LIST OF FIGURES

Figure 1: Conceptual framework of the research.....7

Figure 2: Ages of respondents by membership in groups.....42

Figure 3: Education category of respondents by gender.....44

Figure 4: Marital status of respondents by gender.....46

Figure 5: Religions of respondents.....49

Figure 6: Main income generating activities of respondents.....51

LIST OF APPENDICES

Appendix 1: Interview schedule used for structured interviews.....86

Appendix 2: Checklist used for key informant interviews.....90

Appendix 3: Selected respondents in IGGs and villages (N = 64).....91

Appendix 4: Correlation matrix of dependent and independent variables.....92

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AIDS	Acquired Immuno-Deficiency Syndrome
AOs	Agricultural Officers
ASDS	Agricultural Sector Development Strategy
BIP	<i>Beekeeping Improvement Project</i>
BTC	Belgian Technical Cooperation
CARE	Cooperative for Assistance and Relief Everywhere
CBOs	Community Based Organisations
CCM	<i>Chama cha Mapinduzi</i>
CDO	Community Development Officer
CPM	Capability Poverty Measure
DCDO	District Community Development Officer
DED	District Executive Director
DTO	District Trade Officer
ERA	Economic Report on Africa
FAO	Food and Agriculture Organisation
FHHs	Female Headed Households
HBS	Household Budget Survey
HDI	Human Development Index
HDR	Human Development Report
HHs	Household Heads
HIV	Human Immuno-Deficiency Syndrome
IGAs	Income Generating Activities
IGGs	Income Generating Groups

ILO	International Labour Organisation
IPL	International Poverty Line
JGI	<i>Jane Goodall Institute</i>
KDC	Kigoma District Council
LGAs	<i>Local Government Authorities</i>
MDGs	Millennium Development Goals
MHHs	Male Headed Households
MIFAN	Micro Finance Association Nepal
MP	<i>Member of Parliament</i>
NBS	National Bureau of Statistics
NGOs	<i>Non-Governmental Organisations</i>
NHP	<i>Net Household Product</i>
NPES	National Poverty Eradication Strategy
NSGRP	<i>National Strategy for Growth and Reduction of Poverty</i>
OA	<i>Ongeza Akiba (Increase Saving)</i>
PBFP	Property and Business Formalisation Programme
PHDR	Poverty and Human Development Report
PPP	Purchasing Power Parity
PRSP	Poverty Reduction Strategies Paper
RDS	<i>Rural Development Strategy</i>
RNF	Rural Non-Farm
SACAS	<i>Saving and Credit Associations</i>
SACCOS	<i>Savings and Credits Cooperatives Society</i>
SHGs	Self-Help Groups
SLC	Survey of Living Conditions
SNAL	Sokoine National Agricultural Library

SPSS	Statistical Package for Social Sciences
TACARE	Lake Tanganyika Catchment and Reforestation Education Project
TASAF	<i>Tanzania Social Action Fund</i>
<i>TCRS</i>	<i>Tanganyika Christian Refugee Service</i>
TDV	Tanzania Development Vision
Tshs	Tanzanian shillings
UN	United Nations
UNDP	United Nations Development Programme
URT	United Republic of Tanzania
VEOs	Village Extension Officers
WB	World Bank
WDI	World Development Indicators
WYDF	<i>Women and Youths Development Fund</i>

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

The government of Tanzania through NSGRP I (2005-2010) strove to reduce income poverty of both men and women in rural and urban areas. The targets for poverty reduction in both rural and urban areas were: reducing the proportion of rural population (men and women) below the basic needs poverty line from 38.6% in 2000/01 to 24% in 2010; and reducing the proportion of rural food poor (men and women) from 27% in 2000/01 to 14% by 2010.

Income poverty differs from one geographical location to another one. Generally, income poverty is worse in rural areas than in urban areas. The 2002's National and Housing Census indicated that 87.9% of the population lived in rural areas and depended almost solely on agriculture for their livelihoods. The government of Tanzania recognised this disparity in terms of welfare that exists between rural and urban areas. For example, it formulated the Rural Development Strategy (RDS) in 2001 in order to provide a framework for coordination of strategies concerned with the development of rural communities.

The rural communities in Kigoma District are not excluded from the trap of income poverty. In reality the situation of income poverty is worse in the district when compared to other districts in the same region as well as to most districts in other regions in Tanzania Mainland. Therefore, people were easily mobilised by the district council's facilitators and leaders to join and form Income Generating Groups (IGGs), for them to have access to credits from the government. As a result, different socioeconomic groups

including member-based and managed pre-cooperatives societies, Savings and Credits Cooperatives Societies (SACCOS), Savings and Credits Associations (SACAs), smallholder farmers groups, entrepreneurial groups and at the grassroots level were formed. Such income generating groups were voluntarily established by rural poor people, and organised in such a way that they were expected to confront the challenges such as lack of production skills, low agricultural prices, lack of markets and lack of credits that *make them vulnerable to income poverty*.

People in income generating groups perform different income generating activities which range from farm to non-farm activities. Farm activities *include production of crops, livestock keeping, fishing and farm wage labour*. Non-farm activities *include off-farm wage labour, skilled based activities, and small businesses*. Through the groups, members may get access to credits, subsidised production inputs, better prices for their agricultural commodities, and business and/or extension services from the government and other development partners.

Since 2003, Kigoma District has been implementing the Women and Youth Development Fund (WYDF), a project that aims at empowering women and youths economically. In 2006, Kigoma District, in collaboration with development partners, began the implementation of three income generating projects namely: Ongeza Akiba (OA), Beekeeping Improvement Project (BIP), and Income Generating Activities (IGAs). Beneficiaries of the services provided by the projects were primarily rural men and women who are in income generating groups followed by those who are not members of groups.

Services provided by the projects included the provision of skills through trainings in group management, production, financial management, marketing and provision of credits. Other services included facilitation of product quality certification, purchasing of packaging materials for bee related products, and construction of product collection centres in the project areas. Kigoma District Council works hand in hand with the following main Non-Governmental Organisations (NGOs) in implementing income generating projects: Belgian Technical Cooperation (BTC), CARE International, JGI/TACARE, CARITAS and TCRS.

The empowerment approach of poor people in socio-economic groups in rural areas has a long history and people in Tanzania have mixed experience with it. The findings of this study will facilitate the availability of empirical information of what is happening in income generating groups and in rural community as a whole in relation to income poverty reduction in Kigoma District and in Tanzania at large.

1.2 Problem Statement

The situation of low income in Kigoma District is persistent in spite of some people being members of smallholder farmers groups, entrepreneurial groups and savings and credits cooperatives at the grassroots level. For example, the income per capita in the district was Tsh. 53 000 while the regional and national incomes were Tsh. 155 279 and Tsh. 231 866 (KDC, 2009), respectively, as per 2001 prices. The regional and national per capita incomes in 2008 prices were Tsh. 408 182 and 568 771 *respectively* (URT, 2009). According to the Tanzania Poverty Reduction Strategy Paper (PRSP) of 2000 (URT, 2000), various causes of income poverty, especially in the agricultural sector, were identified to be: poor working tools and technology; non-availability of farm inputs; poor roads; limited access to markets; non-availability of credits; collapse of

cooperatives; adverse climatic conditions; and absence of safety-nets to cope with weather-related and short-term fluctuations in income. *It was not known whether any of these reasons applied to Kigoma District and to people who were and those who were not in the above-listed groups. Even if any of the factors applied, the extent to which it did so was not known. Therefore, the aim of the research was to determine whether the above factors applied, which other factors applied, and the extent to which the factors applied.*

1.3 Research Justification

There is limited empirical information on the performance of income generating groups. There have been mixed views on the performance of the groups. Due to this fact there are gaps in information about the contribution of both men and women in income generating groups to poverty reduction at household level in the district. If the situation of low income is left with no intervention, the people of the district are likely to remain in poverty even if people of other districts may be moving faster out of poverty.

This study was timely as it had potential to provide empirical information on the performance of people who were in income generating groups and those who were not, with respect to poverty reduction. Findings, conclusion and recommendations from this study might contribute to the improvement of district development planning. Also, the findings and recommendations from this study might be utilized by different development practitioners at different levels including the Central Government, Policy Makers, LGAs, NGOs, Private Sectors, Financial Institutions, CBOs and the community at large for the purpose of improvement of performance of income generating groups.

1.4 Objectives of the Research

1.4.1 General objective

The general objective of the research was to determine the contribution of income generating groups to the reduction of household income poverty in rural areas.

1.4.2 Specific objectives

The specific objectives of the research were to:

- a. Identify income generating activities done by household members in income generating groups and those who were not;
- b. Record monetary values of products produced and services in households which were in income generating groups and those which were not; and
- c. Determine impacts of acreage, monetary value of credit, costs of production and service provision, and gross monetary values of products and services among households which were in income generating groups and those which were not; on net household product.

1.4.3 Research Questions

The following research questions were used in this study:

- a. What were the main income generating activities done by IGGs?
- b. What were the monetary values of products produced and services provided?
- c. What were the impacts of acreage, monetary value of credit, costs of production and service provision, and gross monetary values of products and services, on net household product?

1.4.4 Research hypotheses

The following three hypotheses, each one stated in two different forms, were used in this study. The first hypothesis aimed at finding the relationship between being a member and not being a member in an income generating group and net household product. The

second hypothesis was to examine the relationship between household headship and net household product. The third hypothesis aimed at determining the impact of some income-generating factors on net household product.

1. a) Null hypothesis (H_0)

Net household products of households in groups and those not in groups do not differ significantly.

b) Alternative hypothesis (H_1)

Net household product of households in groups and those not in groups differ significantly.

2. a) Null hypothesis (H_0)

Net household product per capita in female headed households does not differ significantly from net household products in male headed households.

b) Alternative hypothesis (H_1)

Net household product per capita in female headed households differs significantly from net household products in male headed households.

3. a) Null hypothesis (H_0)

Acreage, monetary value of credit, costs of production and service provision, and gross monetary value of products and services do not have significant impact on net household product

b) Alternative hypothesis (H₁)

Acreage, monetary value of credit, costs of production and service provision, and gross monetary value of products and services have significant impact on net household product

1.5 Conceptual Framework of the Research

The conceptual framework of the research is illustrated in Fig. 1, followed by explanation of the conceptual framework and the operational definitions of variables.

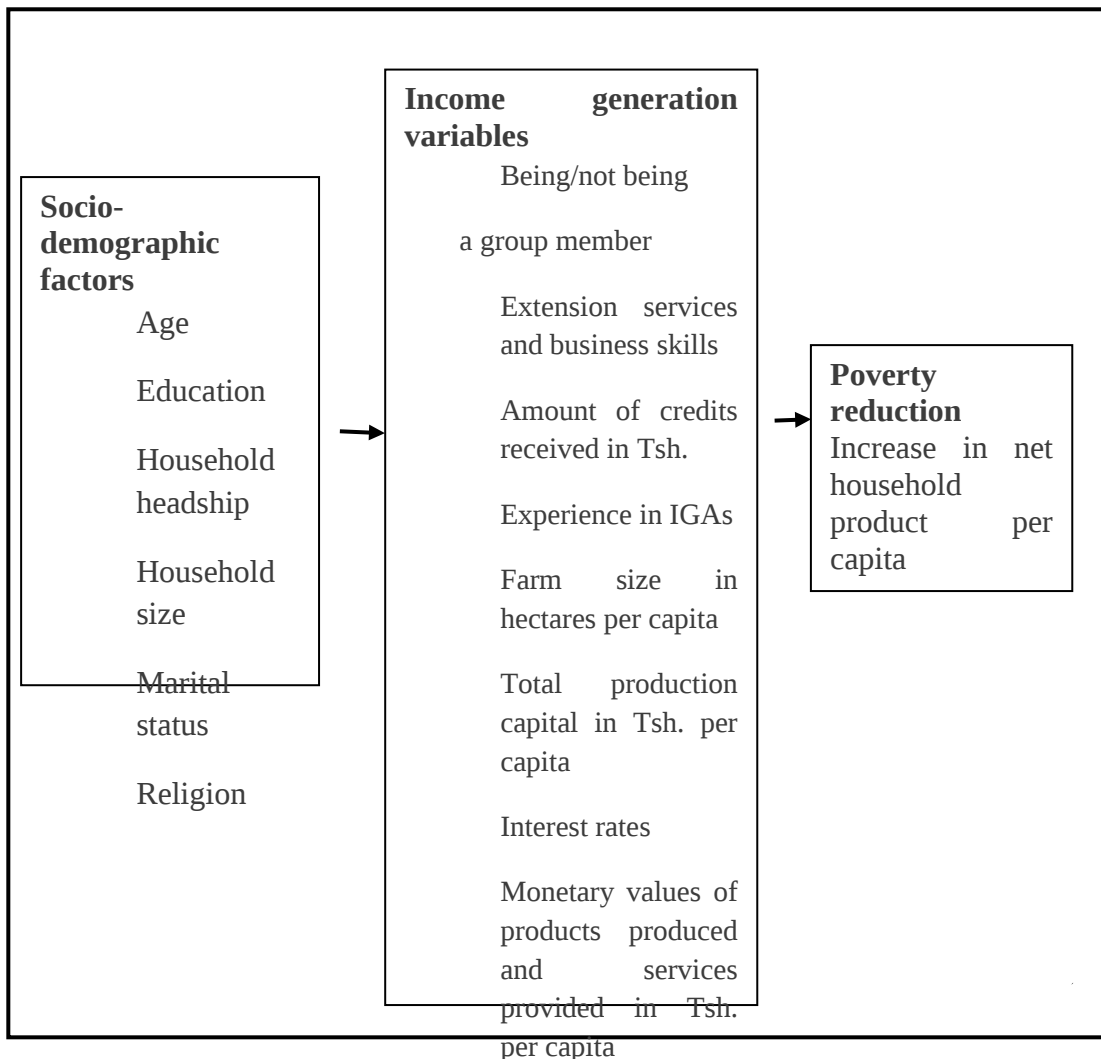


Figure 1: Conceptual framework of the research
 Prices of production inputs including hired labour

1.5.1 Hypothetical relationships between independent variables with the dependent variable

- a) **Age:** Households headed by younger (18-40 years) household heads (HHs) may get more NHP than those headed by older HHs (41 years and above) because they are more active and efficient in performing their work than their counterparts.
- b) **Agricultural extension services and business skills:** The more the entrepreneur is knowledgeable on conditions for successful running of his or her farm or non-farm business the more profits he or she is likely to make out of the business.
- c) **Being a member of a group:** Households which are members of income generating groups may get higher NHP than households which are not members of income generating groups.
- d) **Credits:** Households with access to credits may have higher household incomes than households which have no access to credits.
- e) **Education level:** Households headed by HHs who went to school for more years (7 and above) may get more NHP than those headed by HHs who did not go to school and those who went to school for fewer years (1 to 6).
- f) **Experience in IGAs:** The number of years one has spent in doing a given income generating activity may have a positive effect on amount of profit or income generated. The more the years spent by the HH in one IGA the more the experience and profit generated, and vice versa.
- g) **Farm size:** Households which possess large areas of farmed agricultural land may produce more agricultural products and thus earn higher NHP than households which possess small agricultural land areas.
- h) **Grace period:** Longer grace periods may be associated with more profit generation than shorter grace periods.

- i) **Household size:** Large households containing more than 5 members may get less NHP than small households containing 1 to 5 members because large household members may contain more children and elders who are economically unproductive.
- j) **Production capita:** The amount of profit to be generated from a business depends on the quality and quantity of capital that was used in the business.
- k) **Interest rate:** higher interest rates on credits and loan obtained by entrepreneurs have negative impact on total monetary output. On the other hand, lower interest rate may promote saving in the short run and growth of working capita in the long run.
- l) **Marital status:** a woman who is unmarried is more likely to make free and better decisions on more profitable businesses hence earn more income. This is different from married women whose decision making is normally influenced by the husband. A married man is expected to be more responsible in participating in productive activities so as to be able to fend his family.
- m) **Household headship:** Female headed households may earn less NHP than male-headed households due to un-equal access to production resources.
- n) **Type of IGA:** Heads of households who are mainly engaged in the non-farm sector may earn more income than those who are mainly employed in the farm sector. Also within the farm sector livestock keeping households may earn more income than those who depend solely on crop production. Also those producing cash crops may earn more income than those who produce no cash crop.

1.5.2 Operation definition of key variables

Operational definitions of key variables used in this research are given below to avoid readers interpreting any of them connotatively.

- a) **Age:** Defined as the number of years after the birth of a respondent.

- b) **Being a member of a group:** Referring to a person's affiliation to a group, he or she being an active participant and beneficiary of the group processes.
- c) **Credits:** Refers to money borrowed from external sources for the purpose of supporting the launch or progress of any socioeconomic activity; it has to be reimbursed.
- d) **Education level:** Refers to the number of years the respondent had spent on schooling.
- e) **Farm size:** Refers to total acreage of agricultural land that has been cultivated by the household in a year.
- f) **Female-headed household (FHH):** Refers to a unit of residence where an adult woman; herself alone, with children and other dependants; resides without a male partner.
- g) **Grace period:** Refers to time duration of making use of the credit or loan in generating economic benefits before starting repayment.
- h) **Gross household product (GHP):** Refers to total monetary value of all goods produced and services provided by a household per year.
- i) **Household head:** Refers to a male or female member of a household who plays a leading role of the rest of household members.
- j) **Household size:** Refers to total number of individuals who dwells in one housing unit and/or sharing 'from same pot'.
- k) **Household:** Refers to people who live together under one roof or in the same compound and are sharing food from 'same cooking pot'.
- l) **Income generating activities (IGAs):** Legally accepted activities be they farm related or off-farm activities from which income is earned following employment of labour by the people.

- m) **Income generating group (IGG):** A formal or informal recognised association of people that have a common socioeconomic goal to pursue.
- n) **Male-headed household (MHH):** A unit where an adult man; himself alone, or with spouse(s) or children and other dependants; resides.
- o) **Marital status:** Refers to respondent being married, single, separated, divorced, or widowed.
- p) **Net household product (NHP):** Refers to total value of products and services (including wages from casual labour) minus total costs (except the value of household labour) incurred to produce the products and provide the services in a year, that is, gross household product less total costs.
- q) **Poverty:** Inability of the household to earn a minimum income required for meeting basic needs of the household.
- r) **Poverty reduction:** A gain in net household product which satisfies some human needs.
- s) **Religion:** A set of divine beliefs possessed by the respondent.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 The Concept of Poverty

2.1.1 Meaning of Poverty

Poverty cannot be defined in absolute terms. It may differ in perception from one person to another one and one nation to another one. It is a complex and multidimensional phenomenon which encompasses social, economic and political deprivation of people. Poor people have limited ability to secure a gainful employment and bring a change in their lives. However, poverty may be defined in a comprehensive way as inability to obtain a minimal standard of living.

URT (1999) defines poverty as a state of deprivation and prohibitive of decent life that results from many mutually reinforcing factors, including lack of productive resources to generate material wealth, illiteracy, prevalence of diseases, discriminative socio-economic and political systems and natural calamities, such as drought, floods, HIV/AIDS and wars. According to the World Bank (2000), “poverty is pronounced deprivation in well-being.” ADB (2006) defines poverty as deprivation of essential assets and opportunities to which every human is entitled.

The Tanzania’s PRSP (URT, 2000) defines poverty to include “income” and “non-income” human development attributes. Income poverty refers to lack of minimum income that is required to sustain a person’s basic needs of food, shelter and clothing. Income Poverty is described to be: largely a rural phenomenon, a factor of subsistence agriculture where the poor are concentrated, also widespread and increasing in urban communities, afflicting more intensely the youth, the elderly and persons in large

households, having different impacts between men and women; while female-headed households are not necessarily poorer than male-headed households, women are generally perceived to be poorer than men. Non-income poverty on the other side is a function of access to livelihood enhancing factors including aspects of social services like access to education, health, nutrition, *clean and safe drinking water, social wellbeing and vulnerability to diseases.*

Deaton (2004) considers the lack of income or consumption as one aspect of poverty, while other aspects of poverty include lack of access to education and exclusion from political participation. According to Sen (1999), poverty needs to be considered more broadly than inadequacy of income. He argues that poverty is the absence of one or more of the basic capabilities that are needed to achieve minimal functioning in the society in which one lives. These include not having enough income to ensure being adequately fed, clothed, or sheltered (income poverty) or being unhealthy (health poverty), as well as being denied access to education, political participation, or a full role in society.

2.1.2 Measurement of poverty

Different methods are used in measuring poverty. The methods include national poverty lines and international poverty line; human development index; relative poverty approach; and the capability approach.

National poverty lines

A poverty line is that level of income or expenditure required by an individual to purchase or satisfy a minimum basket of consumption goods and services for him or her to be considered non-poor. ADB (2006) defines a poverty line as the per-capita monetary

requirements an individual needs to afford the purchase of a basic bundle of goods and services.

Each country has its own criteria to track changes in national poverty rates *usually through the use of national poverty lines*. A poverty line is country-specific and this level of income or expenditure varies from one country to another. Irrespective of countries, households or individuals with a per capita income below this line are considered poor, and households with a per capita income above this line are considered non-poor. Synonymously, a poverty line is an income level, which separates the poor from the non-poor.

There are two main ways of setting poverty lines: relative and absolute. Most developing countries use an absolute rather than a relative poverty line. In an absolute poverty line, the poverty threshold is established as the income level at which households are able to purchase essential food and nonfood items, including social services. Poverty as the inability to participate in society leads to concepts of relative poverty, as opposed to the absolute poverty of not having enough to eat, nor enjoying good health (Deaton, 2004). Ravallion (1993) defines an absolute poverty line as “one which is fixed in terms of living standards, and fixed over the entire domain of the poverty comparison”, while a “relative poverty line, by contrast, varies over that domain, and is higher than the average standard of living”. With reference to poverty lines, three measures are used to measure different aspects of poverty; they are headcount ratio (index), poverty gap index and severity of poverty index (Ravallion, 1992; Chen and Ravallion, 2010).

International poverty line

National *poverty lines do not always allow reliable comparisons of poverty among countries, and they cannot be used to calculate the aggregate poverty for a group of countries. To enable a cross country comparison of poverty levels*, the World Bank's world poverty counts use international poverty lines of approximately \$1 and \$2 -a-day at 1985 international purchasing power parity (PPP) prices (Deaton, 2003). The notion behind such lines is a simple one, that for the purpose of the global counts, or indeed for monitoring poverty reduction, we need a common international standard. However, it is subsequently subjected to updating; for example, it was updated to \$1.08 per day in 1993 international prices, and recently to US\$1.25 and US\$2 a day per person in 2005 purchasing power parity terms. The line is still referred to as the \$1/day measure (UNDP, 2004).

Critique on poverty line measurements

The use of poverty lines has been criticised in literature. For example, Sen (1999) *argue that* such a measure is inherently unidimensional and cannot recognise the plural nature of well-being (and deprivation). Indeed, such a measure may be particularly poor at highlighting situations where some dimensions of deprivation intensify despite rising income or where little relationship is found between income and a particular dimension. However, despite the critique over the use of poverty lines, governments still find it useful to focus largely on poverty as a lack of money—measured either as low income or as inadequate expenditures (ADB, 2006). Reasons for focusing on money include: inadequate income is a clear and immediate concern for individuals, simplicity for quantification purposes (Ravallion, 1996); low incomes tend to correlate strongly with other concerns that are important but, harder to measure. The lack of money, then, serves as a proxy for a host of deprivations (ADB, 2006).

Human development index

Apart from the use of *international poverty line (IPL)* in gauging human development in the world, the United Nations Development Programme since 1990 has adopted the use of *Human Development Index (HDI)* in its annual *Human Development Reports (HDR)*. *HDI* takes into consideration the multidimensionality of poverty as it combines three basic dimensions of human development—a long and healthy life (life expectancy), access to education (literacy) and a decent standard of living (income as a proxy indicator).

Capabilities approach to poverty measurement

Capability poverty measure (*CPM*) focuses on human capabilities, just as human development index does. Instead of examining the average state of people's capabilities, it reflects the percentage of people who lack basic, or minimally essential human capabilities, which are ends in themselves and are needed to lift one from income poverty and to sustain strong human development. The capability poverty measure considers the lack of three basic capabilities namely nutrition and health, health reproduction, and education (UNDP, 1996). According to UNDP (2000a, 2000b) capability poverty is measured in terms of illiteracy, malnutrition, life expectancy, poor maternal health, and illness from preventable diseases. Sen (1999) argues that capability poverty tends to look at those factors that make individuals unable to derive sufficient human well-being. One's capacity can take many dimensions, such as education, health and others, and produces stronger impacts on well-being, including on generating incomes necessary to increase consumption of goods and services.

2.1.3 Distribution of poverty in the World

Basing on a poverty line of US\$1.25 a day per person, there are 1.4 billion people who are living in extreme poverty in the world (WDI, 2008). The number of people living in extreme poverty fell from 1.9 billion (52%) in 1981 to 1.8 billion (42%) in 1990 to about 1.4 billion (25%) in 2005 (Table 1). The greatest reduction in poverty occurred in East Asia and Pacific, where the poverty rate declined from 78% in 1981 to 17% in 2005 and the number of people living on less than \$1.25 a day dropped more than 750 million. Much of this decline was in China, where poverty fell from 84% to 16%, leaving 627 million fewer people in poverty (Table 1). Over the same period the poverty rate in South Asia fell from 59% to 40%. In contrast, the poverty rate fell only slightly in Sub-Saharan Africa—going from 54% in 1981 to 59 % in 1999 then down to 51% in 2005 (Table 1). But the number of people living below the poverty line has nearly doubled.

Table 1: Regional poverty estimates

Region	1981	1990	2005
People living on less than 2005 PPP \$1.25 a day (millions)			
East Asia and Pacific	1071	873	316
China	835	683	208
Europe and Central Asia	7	9	17
Latin America and Caribbean	47	50	45
Middle East and North Africa	14	10	11
South Asia	548	579	596
India	420	435	456
Sub-Saharan Africa	212	298	388
Total	1900	1818	1374
Share of people living on less than 2005 PPP \$1.25 a day (%)			
East Asia and Pacific	77.7	54.7	16.8
China	84.0	60.2	15.9
Europe and Central Asia	1.7	2.0	3.7
Latin America and Caribbean	12.9	11.3	8.2
Middle East and North Africa	7.9	4.3	3.6
South Asia	59.4	51.7	40.3
India	59.8	51.3	41.6
Sub-Saharan Africa	53.4	57.6	50.9
Total	51.9	41.7	25.2

Source: World Development Indicators (WDI) (2008)

In 2000, the General Assembly of the United Nations adopted a set of Millennium Development Goals (MDGs), the first of which is to eradicate extreme poverty and hunger, more specifically to “reduce by half, between 1990 and 2015, the proportion of people whose income is less than \$1 a day” (Deaton, 2004).

2.2 Poverty in Tanzania

2.2.1 Poverty reduction overview in Tanzania

Since the late 1960s, the government of Tanzania aspired for building a nation based on a socialistic economy, which focused on collectivisation of agricultural production and improvement of social services via implementation of the Arusha Declaration. Though significant achievements in social sectors like provision of education, health services, and water were realised, the realised achievements were not sustainable as the productive sectors remained underdeveloped. The policy, however, did not reflect the reality of most rural areas and brought about stagnation in agricultural production.

In the 1970s, the Tanzanian economy was damaged by frequent droughts as well as by external factors, including the Uganda-Tanzania War and the oil crises. Furthermore, the country was hit by an economic crisis in the 1980s. Eventually, since the late 1980s, the government introduced structural adjustment policies, which promoted economic and trade liberalization, including the liberalization of agricultural production and distribution. In the 1990s, the government succeeded in stabilising the macro economy and started to address poverty reduction. Despite the implementation of structural adjustment policies that started in the late of 1980s, still there are many people in rural and urban areas in Tanzania who are severely hit by income poverty.

In the late 1990s, the Tanzanian government commitment to poverty reduction was strengthened through the formulation of a number of strategies. In 1998, the National Poverty Eradication Strategy (NPES) was launched. NPES gave birth to subsequent formulation of three short term strategies namely: Poverty Reduction Strategy Paper (PRSP) (2000/01-2003), National Strategy for Growth and Reduction of Poverty I (NSGRP I) (2005-2010) and more recently NSGRP II (2010-2015). In 1999, the Tanzania Development Vision 2025 (TDV, 2025) was formulated. The reduction of income poverty, therefore, constituted the first cluster of the National Strategy for Growth and Reduction of Poverty (NSGRP) –that is, growth of the economy and reduction of income poverty.

2.2.2 Response to income poverty by the government of Tanzania

In responding to the challenges of rural income poverty, the President of the United Republic of Tanzania, in 2006, Hon. Jakaya Mrisho Kikwete, promised to set aside funds amounting to 21 million for making credits available *to poor rural and urban communities. In winding up the year 2008, in his annual address to the nation, Kikwete said “...miaka miwili iliyopita tulianzisha mpango wa mikopo kwa wajasiriamali wadogo wadogo ambao hawana sifa ya kukopesheka katika mabenki kwa utaratibu wa kawaida. ...tulitenga shilingi bilioni moja kwa kila mkoa kwa upande wa Tanzania bara na shilingi milioni 100 kwa kila mkoa kwa mikoa minne ya Zanzibar na shilingi milioni 200 kwa mkoa wa Mjini Magharibi, Unguja ”*(URT,2008). *“... two years ago, we launched a programme for providing credits to small entrepreneurs who lacked qualities for accessing credit from banks through formal procedures. ... We set aside one billion shillings for each region in Mainland Tanzania and 100 million shillings for each region in four regions of Zanzibar and 200 million shilling for Mjini Magharibi Region in Unguja”.*

In 2007, The Prime Minister, Hon. Edward Lowassa, in his speech to the Members of Parliament reported on the implementation of the 21 billions rural and urban poor empowerment, by saying: “...*napenda kuliarifu Bunge lako Tukufu kuwa serikali katika mwaka 2006/07, imetenga wastani wa shilingi milioni 500 kwa kila mkoa kupitia benki zilizopo kwa ajili ya uwezeshaji wa wananchi kiuchumi na kuongeza ajira nchini. Fedha zitatolewa kwa mtu mmoja mmoja au vikundi kwa njia ya mikopo yenye masharti nafuu...*” (URT, 2006a). “I would like to inform your Esteemed Parliament that the government has set aside an average of 500 million shillings for every region in 2006/2007 through the existing banks for people’s economic empowerment and employment addition in the country. Money will be given to people as credit on individual and in groups with credit simplified conditions”.

The government promised its people that it will deal with the unemployment issue with youths and women being a primary focus. The primary strategies to undo the issue of unemployment were the implementation of People’s Economic Empowerment Policy, Property and Business Formalisation Programme (*PBFP*) and Tanzania Social Action Fund (*TASAF*). *The government’s objective toward credits accessibility facilitation to both un-collateral and un-creditable poor people was enabling them obtain working capital for their economic activities and thereby improving their living standards. The government, henceforth, at all levels, mobilised people in rural and urban areas to establish credits and saving cooperative societies (SACCOS), saving and credit associations (SACAs), and other socioeconomic groups (URT, 2008).*

The 2005/06-2010 ruling party’s (CCM) manifesto put emphasis on creation of employment opportunities through people’s economic empowerment policy. The objectives of the policy were promotion of economic growth and raising individual as

well as national income. The retired Prime Minister of the United Republic of Tanzania, Hon. Edward Lowassa (MP) once commented on the role played by an individual on raising his or her income. He said, “...*ongezeko lolote la kipato cha fedha ni jambo linalomtaka kila mtu mwenye uwezo wa kufanya kazi afanye sasa kwa nguvu, bidii na umahiri mkubwa*’ (URT, 2006b). “... *any increment in income requires that every person who is capable of work work hard and skilfully*”. He urged people to form socioeconomic groups for easy access to financial services.

2.2.3 Situation of income poverty in Tanzania

The prevalence of income poverty is still high in Tanzania. According to the Household Budget Survey 2007 (NBS, 2009), the proportion of the population below the national food poverty line is 16.6% with slight decline from 18.7% in 2000/01 and 21.6% in 1991/92 (URT, 2009). According to the same source of information, the population below the national basic needs poverty line is 33.6% and declined from 35.7% in 2000/01 and 38.6% in 1991/92. Poverty remains overwhelmingly high in rural areas where 87% of the poor population lives, and exceedingly majority (74%) of poor Tanzanians are primarily dependent on agriculture. According to the Household Budget Survey 2007 (NBS, 2009), the proportion of the rural population below the national food poverty line is 18.4% and declined from 20.4% in 2000/01 and 23.1% in 1991/92, whereas the proportion of rural population below the basic needs poverty line is 37.6%; it declined from 38.7% in 2000/01 and to 40.8% in 1991/92.

2.2.4 Poverty reduction indicators

Due to difficulty that might arise following the use of all indicators of poverty in a single study, poverty analysis in this study used income as an indicator of poverty reduction. The net household product (NHP) per capita was used instead of income per se in

determining poverty reduction in rural households Limbu (1995), cited by Kayunze (1998). Therefore, in agreement with Limbu's statement, an increase in NHP was conceived as being poverty reduction.

The adoption of NHP as poverty reduction is also based on the fact that once households get products or income of which the value exceeds that of costs incurred during production process, they have products or income to dispose of so as to meet various human needs, be it in nutrition, housing, clothing or others, at least temporarily. The use of net household product as an indicator of poverty reduction is considered to be more appropriate than that of using mere income.

There are a number of reasons which support the use of monetary values in welfare measurement (poverty). Deaton (1997), for example, argues that people tend to hide information about their income earnings during household surveys. On the other hand, people can willingly give information about products being consumed or produced in the household. Also, the prevalence of the informal sector in rural areas where farm and off-farm casual payments or wages are based on receipt in-kinds makes the task of collecting information on income difficult. In developing countries, household incomes fluctuate more over the short term and are often reported less accurately (NBS, 2009). The use of net household product as an indicator of poverty reduction reduces the possibility of overlooking the value of products produced through in-kind receipts and those produced for direct consumption by the household.

2.3 Income Generating Groups

2.3.1 Meaning of income generating groups

‘Income generating group’ refers to an association of people, be it formal or informal, which is linked to the attainment of mutual group interests. Group interests include initiatives and activities that when performed by members of the groups contribute to the wellbeing of individual members, be it socially or economically related. Synonymously, income generating groups are also sometimes referred to as Community based groups, saving and credit associations (SACAs), self-help groups (SHGs), and farmers’ groups. They are characteristically small in size with members ranging from 10-30, legally registered or recognized by local government authorities. While in the past many of such groups were formed by women mainly through women-targeting projects, today they are increasingly being formed by both women and men.

2.3.2 Promoters of income generating groups

Many development projects are increasingly facilitating the formation of these groups. For example, Lema and Kapange (2006) state that agricultural development projects have acted as catalysts toward formation and working with groups in various ways, often building on indigenous, mostly informal village producers’ groups. It is increasingly the policy and practice of district development service providers to work with groups. At national level, various policy documents on promotion of community based groups or socioeconomic groups are available. They include: Cooperative Development Policy (1996), Community Development Policy (1996), Agriculture and Livestock Policy (1997), and Agricultural Sector Development Strategy (ASDS) (2001).

2.3.3 Benefits of participation in income generating groups

Literature shows that income generating groups have significant socioeconomic benefits. Mushi (2000) argues that members of the group may benefit by gaining steady access to agricultural inputs, credits, extension services, entrepreneurship training and social support services which ultimately may have positive effect on improvement of individual household livelihood. *MIFAN (2010) reported that the poor and collateral-less people become credit worthy through group mechanisms. The concept of joint liability embedded in the group enables the members to overcome the problem of collateral security, a major barrier to obtaining credit from formal institutions.*

Again, Haddad and Maluccio (2003) explored the relationship between membership in groups, indicators of trust, and the effect of both on household welfare (measured by per capita household income) using longitudinal data from South Africa. Results indicate that previous membership in financial groups increases trust, and group membership also has a positive effect on per capita income. Also benefits of participation in groups may include greater access to production and market-related information and thus greater household income, build trust and social cohesion and allow group members to gain bargaining power within their own households (Weinberger and Jutting 2001). Other benefits are increased access to public goods and perhaps credit, information sharing, and increased solidarity and strengthened reciprocal relationships (Coady, Dai, and Wang 2001; Hoddinott, Dercon, and Krishnan 2005; Weinberger and Jutting 2001; Grootaert and Narayan 2000).

Other scholars in Tanzania have documented the role played by socioeconomic groups. For example, Mahuwi (2006) reports that “poor people should be encouraged to freely form groups, associations, pre-cooperatives and cooperatives because it is difficult for an

individual on his/her own to develop”. This statement is one of the principles that were laid down by OWINO –a grass-root association in Moshi, Tanzania. The report adds that usually poor people, on individual basis, lack resources which are required for investment in innovations for livelihood improvement. They lack physical means, knowledge and social backstopping for innovative steps. The approach of working in groups tries to tackle all three issues.

2.3.4 A critique on collective socioeconomic activities

Although collective economic activities brought significant socioeconomic changes in the past during the reign of cooperatives in Tanzanian, still they were blamed of embezzlement, indebtedness and operating at great losses (Issa, 2005). Some defaults are commonly being reported as being obstacles to sustainability of group activities. For example, some group members fail to pay back credits that were obtained from the group.

2.4 Gender and Poverty

Gender is defined by FAO as ‘the relations between men and women, both perceptual and material. Gender is not determined biologically, as a result of sexual characteristics of either women or men, but is constructed socially. It is a central organizing principle of societies, and often governs the processes of production and reproduction, consumption and distribution’ (FAO, 1997). Gender relations influence how communities, households and institutions are organized, how decisions are made and how resources are used. The earliest substantial work on gender with implications for thinking on poverty came with the United Nations Decade for Women (1975-1985). In drawing attention to the ‘invisibility’ of women in development, the UN Decade spawned unprecedented efforts to discover and expose what women did, and to explore how they fared in developmental

change in comparison with men. Detailed survey work at the micro-level generated a considerable body of evidence on gender disparities in earnings, and on the processes which gave rise to those disparities such as inequalities in literacy and education, discrimination in labour markets, unequal gender divisions of unpaid work within the home, and the low social and economic value attributed to work performed by women (Chant, 2003).

Results from a study on poverty and household welfare by Kedir and Sookram (2005) regarding the sex of household head show that male-headed households have a positive association with welfare, which increases as we move from poorer households to richer households. Many other studies have also shown that male headed households tend to fare better than female headed ones (Barros *et al.*, 1997) since female headed households have less access to resources and tend to also face discrimination (World Bank, 1991). Thus, there is a constant need to include gender specific policies in formulating policies aimed at poverty alleviation.

ERA (2005) reported that access to and control of productive assets by women is limited by the social norms ingrained in African societies. Poverty is not gender neutral. To reduce poverty, specific attention must be given to women in poor households. Women are generally poorer than men. They are more vulnerable within households because they lack control over productive assets. Research also indicates that women tend to invest any additional earnings in the health and nutritional status of the household and in schooling for the children (Burjorjee *et al.*, 2002). Women are often restricted from product and labour markets. These inequalities result in higher poverty for women and are often accompanied by higher poverty for children, which reduce health and educational outcomes.

Gender is an integral and inseparable part of rural livelihoods (Ellis, 2005). Men and women have different assets, access to resources, and opportunities. Women rarely own land, may have lower education due to discriminatory access as children, and their access to productive resources as well as decision-making tends to occur through the mediation of men. Women typically confront a narrower range of labour markets than men, and lower wage rates.

The performance of income generating activities especially by women is affected by complex gender relations prevailing within the household (Husain *et al.*, 2010). The strength of patriarchy within the community also determines the ability of women to transform the lives of its members. Income poverty is described to be having different impacts between men and women; while female-headed households are not necessarily poorer than male-headed households, women are generally perceived to be poorer than men (URT, 2000).

2.5 Household Structure and Poverty

The structure of rural household plays a significant part in determining access by individuals to farm and non-farm income generating activities. Larger families and those with multiple conjugal units supply more labour to the rural non-farm sector, as sufficient family members remain in the home or on the farm to meet labour needs for subsistence (Gordon and Craig, 2001). However, large households in rural areas, is a good indicator of having many children who are in most cases economically unproductive. According to HBS 2007 (NBS, 2009), households with many members are more likely to be poorer compared to those with fewer members. The headcount ratio increased with household size in all the three surveys that were conducted in 1991/92, 2000/01 and 2007.

Household with a higher proportion of dependants –that is, children under 15 years and adults 65 years and above –are more likely to be poorer (NBS, 2009).

The findings obtained by HBS 2007 (NBS, 2009) concur with findings from another study on the relationship between household size and poverty which indicated that larger households are more susceptible to falling into poverty than smaller ones (Lanjouw and Ravallion, 1994). However, contrary to the above findings, findings from other study on poverty and household welfare in Trinidad and Tobago (Kedir and Sookram (2005) indicated that household size was significant and positively related to household consumption across all quantiles with the weakest association at the 75th quantile. A possible explanation for this contradiction could be related to the composition of households. Larger households could mean that there were more persons in the household who could contribute to the economic welfare of the household. A closer examination of this variable, disaggregated according to age and composition of the household, indicated that over 60% of households comprised persons who could be economically active (aged between 18-60 years) within those households. Jolliffe (2004) reported that the relationship between household size and household's income is not straight forward. Therefore, what matters most is how household members participate in the daily production process.

2.6 Credit Accessibility in Rural Areas

The lack of access to credit by small scale farmers in Tanzania is a major constraint on agricultural production (URT, 2007). For this reason, the contribution of agriculture to household's income is limited. The majority of smallholder farmers cannot finance their production on a cash basis particularly at the start of the season.

2.6.1 Sources of credits for rural households

For centuries, the poor have used a wide range of providers to meet their financial needs. While most poor people lack access to banks and other formal financial institutions, informal systems like moneylenders, savings and credit clubs, and mutual insurance societies are pervasive in nearly every developing country (Littlefield and Rosenberg, 2004). According to Agricultural Sample Census 2002/03 report, only three percent of the total number of agricultural households had access to credit. The main providers of credit to agriculture were identified to include: farming cooperatives; family, friends and relatives; trade stores; savings and credit societies; religious organisations/NGOs/projects; private individuals; and commercial banks (URT, 2007). Large proportions of the credits borrowed by households were used for purchasing fertilisers, agro-chemicals, seeds and hiring labour.

2.6.2 Credits and income generating activities

Credits play a significant contribution to wellbeing of rural households. For example, Davis *et al.* (2002) argue that lack of access to credit is an entry barrier that may limit the ability of some households to participate in non-farm activities. It may also limit the ability of households to expand their current income generating activities, and may limit farmers' ability to take advantage of available agribusiness opportunities. However, access to credits will not guarantee the expansion of non-farm activities, but credit limitations can hinder development of such activities, because credit is often necessary for entry into and expansion of non-farm activities. Rural poor need credit to allow investment in their farms and small businesses, to smooth consumption and to reduce their vulnerability to weather and economic shocks (FAO, 2000). Therefore, micro-financing is fulfilling the agricultural and non-agriculture needs by providing the poor with access to financial resources.

2.6.3 Access to credit by poor households

Despite the common impression that poor people are not effective users of credits, recent empirical evidences confirm that poor people need and use a variety of financial services, including deposits, loans, and other services. They use financial services for the same reasons as anyone else: to seize business opportunities, improve their homes, deal with other large expenses, and cope with emergencies (Littlefield and Rosenberg, 2004).

The poor can also tap into their other assets, such as animals, building materials, and cash under the mattress, when the need arises. Or, for example, a poor farmer may pledge a future season's crops to buy fertilizer on credit from commercial vendors. The access to financial services by rural households is limited in terms of cost, risk, and convenience. Certain types of credit, especially from moneylenders, are extremely expensive. Rotating savings and credit clubs are risky and usually don't allow much flexibility in amount or in the timing of deposits and loans. Deposit accounts require minimum amounts and may have inflexible withdrawal rules. Loans from formal institutions usually have collateral requirements that exclude most of the poor. Experience has shown that the poor can be served profitably, on a long-term basis, and in some cases on a large scale.

2.6.4 Impact of credit on household's income

Empirical evidence shows that there is a positive impact of micro credit on income and consumption smoothening provided it is utilized in a rational way. For example, results from a study on 'Microfinance Route to Income Generation and Poverty Reduction in Pakistan indicated a strong positive relationship (0.859) between micro-credit and change in income level of credit clients. The same study also revealed that change in income was positively strongly correlated with consumption level of credit-recipient households (Abbas *et al.*, 2005).

Micro-credit has tremendous impact on the economic life of the people in the rural areas. A remarkable increase in the level of farmers' incomes, improvement in the quality of life and the increased value of assets have been observed, and the provision of the credit has uplifted the socio-economic status of small and marginal farmers (Abbas *et al.*, 2005; Nazli, 2000, and Swaheed, 2009).

2.7 Households' Incomes

2.7.1 Meaning of households' incomes

The ILO defines income as follows: "Household income consists of all receipts whether monetary or in kind (goods and services) that are received by the household or by individual members of the household at annual or more frequent intervals, but excludes windfall gains and other such irregular and typically onetime receipts, (ILO 2003).

2.7.2 Sources of households' incomes

Rural households obtain their incomes from different sources. According to ILO (2003), household income is categorized into seven basic categories of income namely: (a) crop production income; (b) livestock production income; (c) agricultural wage employment income, (d) non-agricultural wage employment income; (e) non-agricultural self employment income; (f) transfer income; and 7) other incomes.

Similarly, in a study done by Davis *et al.* (2010), they disaggregated activities and income into seven categories which included: crop income; livestock income; agricultural wage income, representing earnings from supplying agricultural wage labour to other farms; non-agricultural wage income, including from both formal and informal employment; self-employed income from own businesses; remittance income received

from relatives and friends not presently living with the household; and other incomes, mostly comprising capital earnings and pensions.

2.8 Income Generating Activities in Rural Areas

2.8.1 Off-farm and farm activities

Rural household incomes may come from off-farm or farm activities. Both off-farm and on-farm activities are closely related in which each one influences the other one. In rural areas off-farm work complements on-farm productivity by increasing the household capacity to purchase farm inputs and/or make on-farm investments leading to improved yield and labour productivity. Off-farm income may also increase average income, for example where seasonal labour demands differ across activities (Holden *et al.*, 2004; and Carletto *et al.*, 2007).

2.8.2 Diversification of income generating activities

Rural households often employ diversified income generation strategies which include a variety of both agricultural and non agricultural activities. Even among purely agricultural or specialized Rural Non-Farm (RNF) households, a high level of diversification is observed within the sector.

Empirical evidences on diversification of income sources in rural areas have been shown by various authors. For example, Ellis (2005) found that in sub-Saharan Africa, a range of 30% to 50% reliance on non-farm income sources is common; but it may attain 80% to 90% in southern Africa. He also states that in south Asia, on average roughly 60% of rural households' incomes are from non-farm sources. However, this proportion varies widely between, for example, landless households and those with access to land for farming. In sub-Saharan Africa reliance on agriculture tends to diminish continuously as

income levels rise, i.e. the more diverse the income portfolio, the better-off is the rural household.

Many scholars have elaborated on various reasons for diversification of rural income generating activities. Barrett *et al.* (2001) and Davis *et al.* (2010) assert that reasons for diversification of rural income generating activities are two-fold namely “push factors” and “pull factors”. Push factors are risk reduction, response to diminishing factor returns in any given use, such as family labour supply in the presence of land constraints driven by population pressure and landholdings fragmentation, reaction to crisis or liquidity constraints, high transactions costs that induce households to self-provision in several goods and services. Pull factors include realization of strategic complementarities between activities, such as crop-livestock integration or milling and hog production; and specialization according to comparative advantage accorded by superior technologies, skills or endowments.

Similarly, Ellis (1998) argues that rural households diversify their sources of income due to: the seasonal use of labour, differentiated labour markets, household-risk strategies and coping behaviour, credit-market imperfections, and household savings and investment strategies. Non-farm income can thus help in overcoming credit and insurance problems. It could also provide income-earning opportunities outside the growing season, employ the household’s extra labour, help in managing weather and other risks, and ensure smoother consumption throughout the year.

Furthermore, Carletto *et al.* (2007) argue that RNF activities, being countercyclical with agriculture particularly if not highly-correlated with agriculture, serve as a consumption smoothing or risk insurance mechanism. Other scholars report the reasons for income

diversification to include declining farm incomes and the desire to insure against agricultural production and market risks (Kijima *et al.*, 2006 and Reardon, 1997).

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Geographical Location of the Study Area

This research was conducted in Kigoma District, Kigoma Region. Kigoma District Council is one of the four councils in the region. Other councils are Kigoma-Ujiji, Kasulu and Kibondo. Kigoma District is located to the Western part of Tanzania between latitudes 4°25' and 6°30' South of the Equator and longitudes 29°45' and 31°30' East of the Greenwich. The District was purposeful selected due to persistence of income poverty, and also from 2003 the District has been supporting its rural communities on individual and group approaches with particular attention to women and youth groups.

According to the 2002 Tanzania National and Housing Census, the population of Kigoma District was 490,816 people of whom 237 342, equivalent to 48.36% and 253 474, equivalent to 51.64%, were females and males respectively (URT/NBS, 2003). The 2010 district's population was estimated at 648 189 at the annual population growth rate of 4.1% established in 2002. In 2002, the district had a total of 102 773 households with an average household size of 6.8 persons per household. The District covers a total land area of 19 574 Square Kilometres of which 8 029 Square Kilometres is covered by water, mainly Lake Tanganyika and other small lakes of Nyamagoma and Sagara. The remaining 11 545 Km² is a dry land. Administratively, the District council has Six Divisions, 22 Wards, 75 Villages and 471 sub-villages (or hamlets).

The population of Kigoma District is primarily rural with the majority of the inhabitants depending on agriculture for their livelihoods. The major economic activities include agriculture (82%), fishing (3.8%), business operations (6.6%), office work (2.4%), other

elementary occupations –such as small scale industries of carpentry, processing and masonry (3.7%), and others (1.5%). Major food crops grown in the district include maize, beans, sweet potatoes, cassava and rice. Cash crops include: coffee, palm, cotton, groundnuts and horticultural crops such as tomatoes, pineapples, passions and others.

3.2 Research Design

The conduction of this study was based on a cross-sectional research design in which data from respondents were collected at a single point in time. The design has been recommended by Bailey (1994) and Babbie (1990) because of its dual economic advantages of saving time and money during data collection. It allows a researcher to collect data from the field in reasonable time duration provided that he or she can identify the population relevant to the purpose of the study.

3.3 Sampling Procedure and Sample Size

Respondents, who were heads of households for this study, were obtained through multi-stage sampling procedures. Purposive sampling technique was used to select three divisions from the district, four wards from the divisions and four villages from the wards in the district. The criteria for purposive selection of divisions and villages were the existence of income generating groups and ease of accessibility to the areas. Households which were not in IGGs were obtained through simple random sampling techniques with the help of Village Executive Officers (VEOs).

The selection of households which were in IGGs was preceded by identification of IGGs. With the help of VEOs, WCDO, and groups' leaders, households in IGGs were randomly selected. Care was taken to ensure weighted representation of female headed households in the sample. The sample size of the study was 128 households. Thirty-two (32)

households were drawn from each village. Out of them 16, were households in IGGs while the other 16 were households not in IGGs. The sample size was determined based on the argument by Bailey (1994) that, regardless of the population size, the minimum sample size should be at least 30 cases for a research in which statistical data analysis is to be done. Therefore, the sample size of 128 households is even over and above the amount recommended by Bailey. The names of divisions, wards, villages and IGGs from which respondents were drawn are attached in Appendix 4.

3.4 Data Collection Methods

3.4.1 Primary data

Interview schedule and checklists were used for primary data collection. An interview schedule was used for structured interviews with household respondents while a checklist was used for semi-structured interviews with key informants.

3.4.2 Secondary data

Secondary data related to this study were obtained from the library, the Sokoine National Agricultural Library (SNAL), Kigoma District Council and internet based sources.

3.5 Data Analysis

Data were coded, summarised and entered into a spread sheet by hand and then into the computer and finally analysed by using SSPS 12.0 for Windows.

3.5.1 Analytical models

1. Descriptive (univariate analysis)

This was done to determine distributions and magnitudes of individual variables among respondents including measures of central tendency such as means, mode and

median; frequency analysis by generating tables showing the number, percentages, and cumulative percentages of respondents; and measures of dispersion including range, standard deviation, minimum and maximum values.

2. Bivariate analysis

This was done by computing cross-tabulation tables to generate contingency tables in order to establish whether two variables were related or not, and if the two were related then how.

3. Inferential analysis

This was done by using linear correlation to determine Pearson's product moment coefficient (Pearson's r) in order to determine and indicate the strength and direction of the relationship between variables measured at interval and ratio levels. Inferential analysis was also done by using t -test to find if there were significant differences in averages in net household products between households in groups and those not in groups (Hypothesis Number 1), and female-headed and male-headed households (Hypothesis Number 2). Also, multiple linear regression was used to determine the magnitudes and directions (negative or positive) of some independent variables on the dependent variable (NHP).

The regression model used was: $y = a + b_1 x_1 + b_2 x_2 + \dots + b_k x_k + E$, where:

Y = Net household product (NHP) per capita

a = Intercept of the equation;

b_1, \dots, b_8 = Regression coefficients for the independent variables;

x_1 = Years spent on schooling by respondent

x_2 = Household size

- x_3 = Age of an entrepreneur
- x_4 = Acreage per capita in hectares used for agricultural production
- x_7 = Approximate distance in kilometres to the market place
- x_5 = Monetary value of credit per capita in Tsh. received per year
- x_6 = Total production and service provision costs in Tsh. per capita -
- x_8 = Total value of products and services in Tsh. per capita
- E = Error term representing a proportion of the variance in NHP that was unexplained by the regression equation.

The dependent variable (NHP) was regressed on the eight independent variables, indicated above. The eight independent variables were thought as being the ones that were most responsible for variation in the dependent variable. Before the dependent variables were regressed on the independent variables, they were checked for normality and multicollinearity. Multi-collinearity exists when two pairs of independent variables have a correlation coefficient of 0.80 or more (Bryman and Cramer, 1992).

Normality checking was done to verify if the distribution of variables was normal. One variable namely the distance in kilometres to the market was not normally distributed. This variable was standardized by transforming it into normal distribution by computing Z-scores and using Z-scores of the variable in the regression equation.

Multicollinearity is usually regarded as a problem because it means that the regression coefficients to be computed may be unstable. Also, when two variables are very highly correlated, it is undesirable to treat them as separate entities. For independent variables with a correlation coefficient of 0.80 or more, only one of them is included in the model. Multicollinearity check-up revealed that no pair of independent variables had a

correlation coefficient of 0.80 or above (Appendix 4). Therefore, all the independent variables were included in the regression equation as there were no independent variables which were multicollinearly related.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Socio-Demographic Characteristics of Respondents

4.1.1 Gender of household heads

Both male and female heads of households were included in this study. Results on gender of household heads are shown in Table 3. The proportion of male headed households was almost two-thirds (64.1%) of all households in the study, whereas female headed households constituted almost the remaining one-third (35.9%) of all households. The results agree with the fact that male-headed households prevail in most societies. However, it is important to note that the proportions of male and female headed-households obtained in this study do not necessarily reflect the reality with regard to household headship against gender. For the purpose of this study, more female headed households were included in order to have meaningful statistical computations with particular consideration of hypothesis number two. According to Due *et al.* (1997) FHHs among smallholder farmer households in Tanzania are almost 30%. But, the World Bank (1993) reports that in rural Tanzania, FHHs are only 5.8%.

Table 2: Headship of households by village of residence (n = 128)

Variable	Village of residence									
	Kidahwe		Ilagala		Kalinzi		Kasuku		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Category of household										
Male-headed	25	78.1	15	46.9	22	68.8	20	62.5	82	64.1
Female-headed	7	21.9	17	53.1	10	31.3	12	37.5	46	35.9
Total	32	100	32	100	32	100	32	100	128	100

4.1.2 Ages of respondents

Ages of heads of households were obtained by asking them to mention the number of years they had lived since birth. For clarification purpose, heads of households were also asked to memorize their years of birth. Age was categorised into five categories as follows: younger adult heads of households were assigned to category one (25 to 34 years), adult heads of households were assigned to category two (35 to 44 years), senior adults were assigned to category three (45 to 54 years), early old age were assigned to category four (55 to 64 years), and elders were assigned to category five (above 64 years).

Results on the distribution of respondents according to their age and membership in income generating groups are shown in Fig. 2.

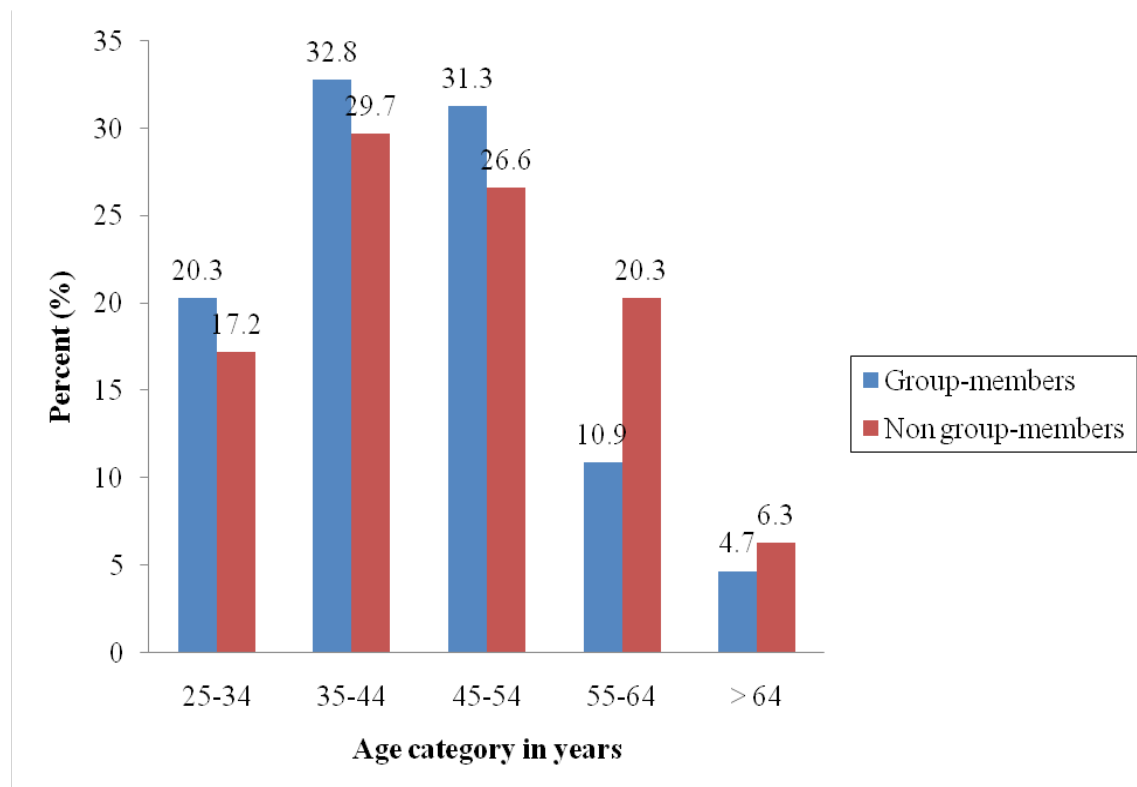


Figure 2: Ages of respondents by membership in groups

The results show that the majority of households were headed by people whose ages were within the age category of 35 to 44 years and 45 to 54 years. This is presumably so because under normal circumstances within these age groups people are economically active, and in most cases are independently involved in different socioeconomic activities. In most cases within the age ranges of 35 to 44 years and 45 to 54 years, heads of households are mature enough to have own-homes, spouses, children, and other dependant members within their households. Additionally, the results in Fig. 2 depict that heads of household within ages of 25 to 54 years were more likely to be members of income generating groups than those whose ages were between 55 and above.

4.1.3 Education of respondents

The level of education of heads of households was obtained by asking respondents to mention the number of years they had spent on schooling. Results are presented in two ways: in the first way the education of heads of households is presented with the consideration of gender (Fig. 3); in the second presentation, education of heads of household is presented generally in order to see the overall achievement in schooling of all heads of household (Table 3).

In the first presentation, households were grouped into three categories namely those with respondents who had spent zero years to six years on schooling as category one, those who had spent seven years in schooling as category two, and those who had spent over seven years as category three. Fig. 3 shows the distribution of the respondents according to their schooling years and gender.

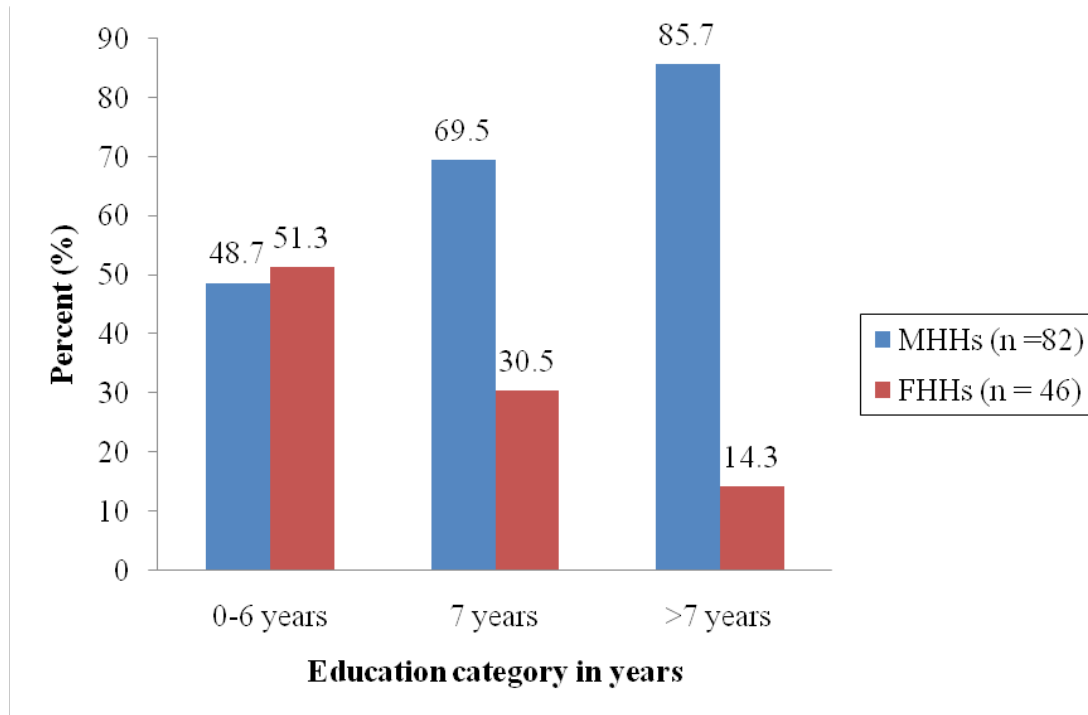


Figure 3: Education category of respondents by gender

The results show that male-headed households had spent more years on schooling at both levels –that is standard seven and above standard seven levels. Also results show that female-headed households were disadvantaged since more of them had schooled fewer years –that is from zero years to 6 years than their counterparts –the male-headed households.

Results on the general situation in education achievement are shown in Table 3. The results show that at least more than three-fifths (64.1%) of all households were headed by respondents who had completed standard seven. Also the results reveal that around one third (30.5%) of all households were headed by respondents who had either never participated in primary schooling or those who participated in primary schooling but were unable to complete primary education.

Table 3: General overview of education of respondents (n = 128)

Education category in years	Frequency	Percent
0-6	39	30.5
7	82	64.1
>7	7	5.5
Total	128	100.0

However, the same results show that fewer households (5.5%) were headed by respondents whose schooling years were above primary education. Results reported by HBS 2007 (URT, 2008) indicate that 4.1% had at most completed form four secondary education. Moreover, it is deduced that more heads of households (30.5%) are more likely to be illiterate.

Findings on schooling years of heads of household in this study depict the reality with regard to education level of most rural people in Tanzania. This is particularly so because in the past, between 1970s and 1980s, the period in which most heads of household were supposed to attend schooling, the government had made vast investment in the education sector through the Universal Primary Education Programme. The government of Tanzania, being aware of low education of most Tanzanians in 2004, started implementing the Secondary Education Development Programme. It is hoped that a significant number of people has already benefited from this education programme since then.

4.1.4 Marital status of respondents

Information regarding marital status of heads of household was obtained by asking whether the household heads had spouses. Results on marital status of heads of household are presented with gender consideration in Fig 4.

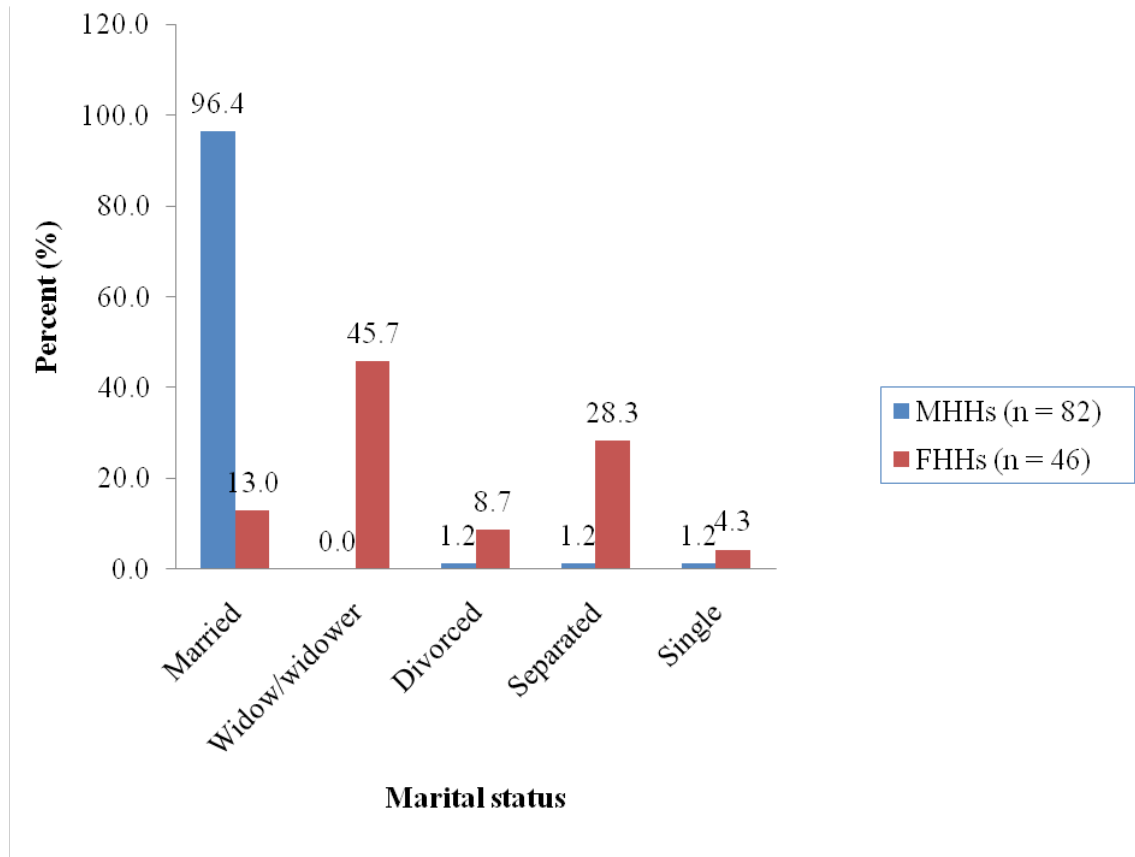


Figure 4: Marital status of respondents by gender

Findings from this study reveal that the majority of households (96.4%) out of all male-headed households in the study villages were headed by married male respondents. Households which were headed by married female respondents were very few (13%) out of female headed households. Furthermore, the same results in Fig. 4 indicate that more women heads of household were most likely to be widows than men headed households. While the results show the absence of widowed male headed households, widowed female heads of households accounted nearly a half (45.7%) of all female-headed households. Notwithstanding the findings on widowed female households, still more female-headed households were most likely to be headed by women who were divorced, or separated and or single.

The findings obtained from this study are comparable with the findings from the HBS 2007 (NBS, 2009), which reported that women who were heads of household tended to be widowed, divorced or separated. However, while the findings from the HBS 2007 (NBS, 2009) indicated that female headed households constituted one quarter of all households, results from this study show that female headed households constituted roughly one-third of all households.

4.1.5 Household size of respondents

Heads of household were asked to mention the total number of people who were residing in their households as members of household, with exclusion of temporal guests or visitors, or married and independent sons and or daughters, but also with inclusion of household members who were temporarily absent due to various socioeconomic reasons. Households' size were grouped into four categories namely small households, those with household members up to four; medium-sized households, those with household members ranging from five to eight; large households, those whose household members were ranging from nine to 12; and very large households those whose household members were above 12.

Results on households' size are presented in Table 4. The results show that over a half of all households (54.7%) were within the household size category of 5 to 8 people. The same results also indicate that a quarter of all households were large households. Descriptively, irrespective of categories of household size, the average household size is 7.2. According to the 2002's National Population and Housing Census, the average district's household size was 6.8.

Table 4: Household size of respondents by village of residence (n = 128)

Variable	Village of residence									
	Kidahwe (n ₁ = 32)		Ilagala (n ₂ = 32)		Kalinzi (n ₃ = 32)		Kasuku (n ₄ = 32)		Total (n = 128)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Household size										
≤4	8	25.0	10	31.3	1	3.1	2	6.3	21	16.4
5-8	13	40.6	14	43.8	20	62.5	23	71.9	70	54.7
9-12	9	28.1	8	25.0	10	31.3	5	15.6	32	25.0
>12	2	6.3	0	0.0	1	3.1	2	6.3	5	3.9
Total	32	100	32	100	32	100	32	100	128	100

4.1.6 Religion of respondents

The results on religious orientation of heads of household are shown in Fig. 5. The results show that over a half of all households (55.4%) were headed by Christians followed by Muslims who headed almost 44% of all the households in the study villages. The results on religious orientation imply that most of people in the study area are believers in modern religion while some believe in the old religion. Notwithstanding the results from this study, care should be taken not to generalise the religion of the people in the whole district as being same to the data reported in this study. This is due to the fact that some of the villages which were not included in this study have significant difference in the number of people who believe in either Christianity or Islam.

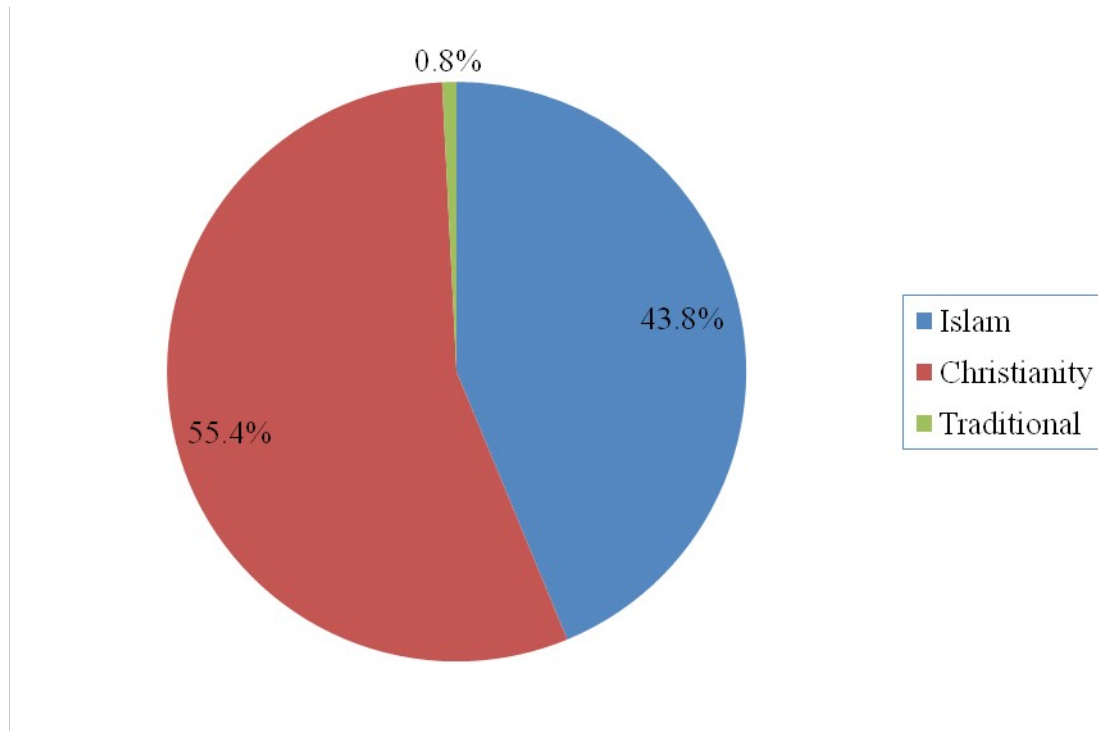


Figure 5: Religions of respondents

4.2 Income Generating Activities

4.2.1 Main income generating activities

Respondents in the study villages were asked to mention their main income generating activities from which they mainly derived income. Results are presented in two ways: In the first instance results are presented generally without consideration of households' membership in groups (Table 5), while in the second instance results are presented with consideration of households' membership (Fig. 6).

Table 5: Main income generating activities of respondents

Activity	Frequency	Percent
Farm activities		
Agric (food crop)	76	59.4
Agric. (cash crop)	22	17.2
Off-farm activities		
Selling food crops	11	8.6
Small shops	6	4.6
Selling cooked food	4	3.1
Tailoring	2	1.6
Fishery	1	0.8
Selling charcoal or firewood	1	0.8
Selling sardines and or fish	2	1.6
Traditional healing/local health services	1	0.8
Formal Employment	2	1.6
Total	128	100

Overall, 76.6% of all households in the study villages obtained income mainly from farm activities which included agricultural food and cash crop production. Agricultural food crops which were grown included maize, cassava, beans, banana, sweet potatoes, groundnuts, pigeon peas, and horticultural crops mainly tomatoes. This finding is in agreement with findings reported by HBS 2007 (NBS, 2009) that farming and related activities continue to dominate in rural areas' households. However, the proportion of 76.6% of households which obtain income mainly from farming activities is higher than 50.4% of households reported by HBS 2007 (NBS, 2009).

On the other hand, 23.4% of households obtained incomes mainly from off-farm activities. Results obtained imply that many households mainly depended primarily on agricultural production. Empirical information shows that dependence on agricultural production in rural areas is associated with poverty prevalence (URT, 2000). Slightly less than one-fifth (17.2% of all households obtained their incomes mainly from the sale of cash crops. This proportion is slightly higher than 15.3% of households reported by HBS 2007 (NBS, 2009).

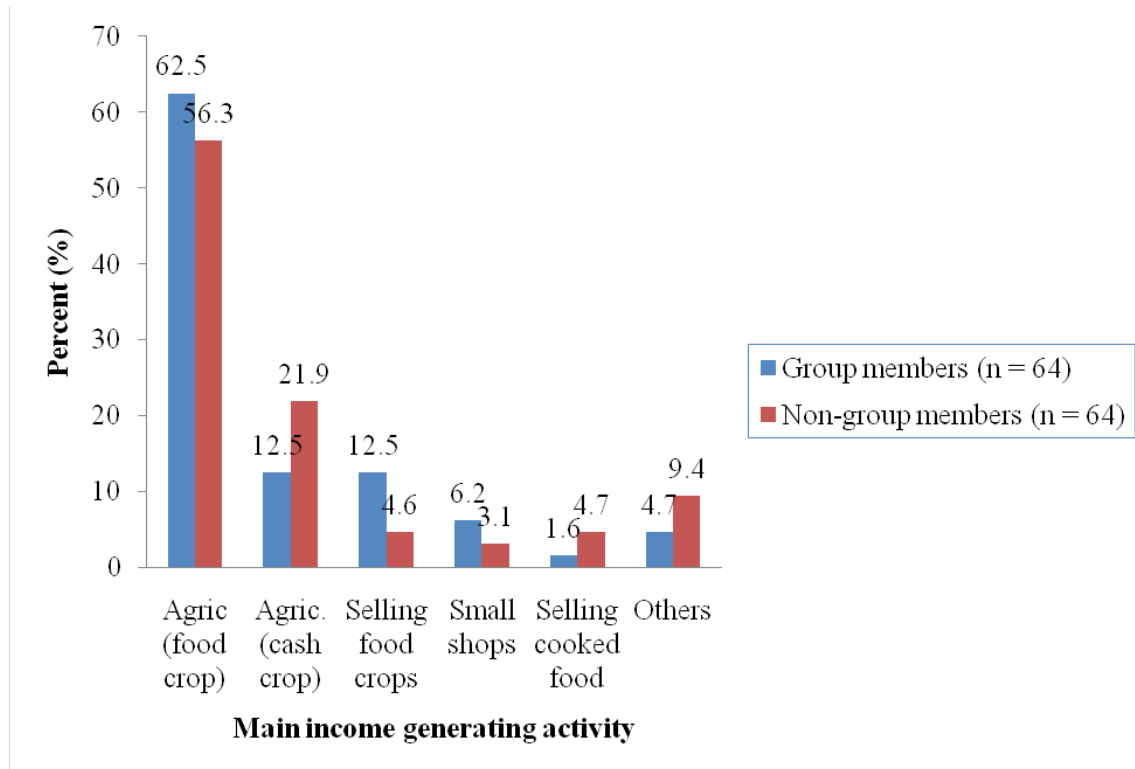


Figure 6: Main income generating activities of respondents

The results in Fig. 6 show that over three-fifths (62.5%) of all households which were headed by respondents in income generating groups and over half (56.3%) of all households which were headed by respondents not in income generating groups, generated household income mainly from agricultural food cropping. The results also show that one-eighth (12.5%) of households which were headed by respondents in income generating groups and slightly more than one-fifth (21.9%) of households which were headed by respondents not in income generating groups obtained their household incomes mainly from agricultural cash cropping. Cash crops which were grown in the study villages were mainly coffee and palm.

The results in Fig. 6 also show that 12.5% of households which were headed by respondents in income generating groups and 4.6% of households which were headed by respondents not in income generating groups, obtained income from selling food crops –

an activity which is directly linked to agricultural food and cash crop production. The major food crops which were reported as being sold at the market places were maize, cassava, banana, beans, tomatoes and palm oil. The rest of households obtained income mainly from off-farm activities such as small shops, selling of cooked food mainly by women. Other main income generating activities included: fishing, tailoring, selling of fish/sardines, selling of charcoal, traditional healing and formal employment.

The relationship between main income generating activities and group membership was a little bit mixed. While more households (62.5%) among group members carried out food crop cultivation as their main source of income compared to non-group member households (56.3%), participation in cash crop production indicated otherwise, that is, more non-group member households (21.9%) participated in cash crop cultivation as compared to group-members households (12.5%). Probably this was so because of disparities in accessing agricultural land and so in agro-ecological zones of respondents in the study villages. Regarding the off-farm sector the results show that more households which were headed by respondents in income generating groups were most likely to participate in the selling food crops and operating small shops.

4.2.2 Other income generating activities

Information on other income generating activities of households was collected by asking respondents to mention them apart from the main income generating activities. Results on other income generating activities by households are presented in Table 6.

Table 6: Other income generating activities of respondents (n = 106)

Dichotomy label	Count	Percentage of responses	Percentage of cases
Food crop production	45	24.7	42.5
Cash crop production	26	14.3	10.4
Livestock keeping	25	13.7	23.6
Fishing	1	0.5	0.9
Selling charcoal	6	3.3	5.7
Selling agricultural crops	39	21.4	36.8
Carpentry	2	1.1	1.9
Tailoring	5	2.7	4.7
Selling sardines/fish	6	3.3	5.7
Beekeeping	3	1.6	2.8
Local soap making	1	0.5	0.9
Small shops business	6	3.3	5.7
Local brew selling	1	0.5	0.9
Weaving and basketry	2	1.1	1.9
Off-farm wage labour	3	1.6	2.8
Masonry	2	1.1	1.9
Butchery	2	1.1	1.9
Horticultural production	4	2.2	3.8
Loading/off-loading luggage	1	0.5	0.9
Bicycle/machines repairing	2	1.1	1.9
Total Responses	182	100.0	157.5

NB: Some respondents gave more than one activity, thus total number of counts exceeds 106

The results show that, in addition to the main income generating activity, the majority of households diversified their income sources by carrying out other income generating activities. This is in agreement with findings from other scholars on the role of diversification of rural income generating activities on livelihoods (FAO, 1998; Ellis, 2000; Davis *et al.*, 2007; and Haggblade *et al.*, 2007). Rural households diversify their sources of income by combining both farm and off-farm activities. According to FAO (2007) off-farm income –an income which is derived from off-farm activities –is an important strategy for meeting subsistence needs as well as absorbing shocks to agricultural income.

4.3 Monetary Values of Products and Services

Respondents were asked to state types of products and services from which they obtained

income during the 2009/2010 fiscal year. They were also requested to mention costs incurred during the production process of each product or service. Thereafter, the respondents were required to state the quantities of products produced and magnitudes of services provided along with corresponding monetary values with consideration of prevailing local prices in their villages of residence. The respondents were requested to recall from their own experiences so as to be able to give as much as possible the actual costs of production of products and provision of services and monetary values of products produced and services provided.

Net monetary values were used in this study to report monetary values of products and services instead of gross monetary values since they consider the cost factor in the production process. Results on net monetary values of products and services are presented in Table 7 and Table 8 for own agricultural products and livestock production, and trading of agricultural products, services and other sources, respectively.

Table 7: Monetary values of products produced per household in 2009/10

Product/service	n	Minimum (Tsh.)	Maximum (Tsh.)	Mean net monetary value (Tsh.)	Std. Deviation
Agricultural crops (own production)					
Maize	90	-120 000	834 000	70 810	141 650
Cassava	54	-121 000	5 780 000	333 000	797 338
Beans	35	-167 000	630 000	107 400	178 505
Coffee	27	-414 000	2 367 200	502789	648 104
Banana	16	40 000	600 000	204 500	162 836
Palm oil and palm-by products	13	83 000	1 227 000	472 308	361 227
Horticultural produce	8	-170 000	347 000	118 063	158 026
Groundnuts	7	-102 000	100 000	28 714	67 416
Sugar cane	2	0	714 000	357 000	504 874
Rice	3	60 000	4 204 000	1 450 167	2 384 926
Potatoes	3	20 000	350 000	140 000	182 483
Pigeon peas	1	20 500	20 500	20 500	.
Livestock					
Goats	7	-95 000	190 000	95 286	96 031
Poultry	7	42 000	316 400	132 986	115 869
Sheep	1	87 000	87 000	87 000	.

As seen in Table 7, maize, cassava and beans are staple foods of most people in the study district. Results also show that rice had the highest average net monetary value (Tsh. 1 450 167) of all agricultural crops followed by coffee, palm oil and palm by-products, cassava and sugarcane. However, fewer households were involved in rice production. Despite maize being a staple food, it had smaller average net monetary value (Tsh. 70 809) as compared to cassava (Tsh. 333 000), banana (Tsh. 204 500) and beans (Tsh. 107 400). It is also important to note that some households experienced negative net monetary values in the production of maize, cassava, beans, coffee, horticultural produce, groundnuts and goats. Regarding livestock production, poultry had higher average net monetary value (Tsh. 132 985) compared to net monetary values obtained from goats (Tsh. 95 285) and sheep (Tsh. 87 000).

Table 8: Monetary values of sale products and services provided per household in 2009/10

Product/service	n	Minimum (Tsh.)	Maximum (Tsh.)	Mean net monetary value (Tsh.)	Std. Deviation
Business' products					
Maize	11	7 500	1 250 000	308 000	349 516
Banana	2	50 000	125 000	87 500	53 033
Palm oil/palm-by products	11	25 000	732 000	365 986	244 355
Tobacco	1	200 000	200 000	200 000	.
Cooked food	3	320 000	920 000	593 000	303 623
Fried food products	1	27 000	27 000	27 000	.
Fish products	2	200 000	380 000	290 000	127 279
Sardines (business)	5	10 000	1 200 000	466 000	448 977
Services					
Tailoring	4	412 000	1 750 800	849 700	610 913
Carpentry	3	330 000	835 000	512 910	279 794
Construction	1	118 000	118 000	118 000	.
Bicycle repairing	1	376 000	376 000	376 000	.
Traditional Healing	1	600 000	600 000	600 000	.
Others					
Small shop goods	11	300 000	1 930 000	851 727	505 035
Charcoal (business)	3	60 000	96 000	82 000	19 287
Soap (locally produced)	1	1 080 000	1 080 000	1 080 000	.
Salaries	2	2 208 000	4 800 000	3 504 000	1 832 821
farm wage labour (service)	4	320 000	480 000	410 000	82 462
Interests (from deposits)	3	7 000	120 000	55 667	58 106
Remittance	1	300 000	300 000	300 000	.
Rentals	1	360 000	360 000	360 000	.

The results in Table 8 reveal that households whose heads were employed and therefore were paid regular salaries, had higher average net values. However, since the percentage of formally employed heads of household is small, no more discussion is needed. The second highest average net monetary value (Tsh. 1 080 000) was generated from selling locally produced soap. It is worthwhile mentioning that maize sales, palm oil and palm-by products sales and small shops contribute substantially to livelihoods of rural households. While the average net monetary value obtained from selling own produced maize was small, that obtained from maize business was high (Table 8). This is probably so because many rural households sell their own produced products at lower farm gate

prices which are in most cases lower than prices charged by business men.

With regard to monetary values obtained from service provision, tailoring had higher average net monetary value followed by carpentry, bicycle repairing and construction. Although traditional healing had higher average net monetary value only one respondent was involved in the provision of the service. Thus no more discussion is dedicated to this type of service.

4.4 Economic Services Received by Respondents

Rural households make use of different economic services in sustaining their livelihoods. This section presents information and discussion on main economic services as identified by the researcher which included: credit, agricultural extension services, business training, improved agricultural inputs and agricultural land. The respondents were asked to state whether they had access to the mentioned economic services, how often they accessed the services and or the quantities of services or inputs they used in carrying out production activities.

4.4.1 Credits, agricultural extension services and business training services

Results on accessibility to credits, extension services and business training services, by respondents are presented in Table 9.

Table 9: Access to credits, extension services and business training

Economic service	Households in groups		Households not in groups		Total	
	No.	%	No.	%	No.	%
Credits						
Recipients	28	43.80	2	3.10	30	23.40
Non-recipients	36	56.30	62	96.90	98	76.40
Total	64	100.00	64	100.00	128	100.00
Extension services						
Recipients	28	43.80	15	23.40	43	33.60
Non-recipients	36	56.30	49	76.60	85	66.40
Total	64	100.00	64	100.00	128	100.00
Business training						
Participants	10	15.60	7	10.90	17	13.30
Non-participants	54	84.40	57	89.10	111	86.70
Total	64	100.00	64	100.00	128	100.00

From the results it is found that households whose heads are in IGGs receive more of economic services than those who are not. The results show that out of the study sample of 128 respondents, only 30 respondents, equivalent to 23%, had received credits for running their economic activities. It is revealed that 28 households out of 30 households, equivalent to 93%, which had received credits, were in income generating groups. Fewer households (7%) which were not in groups had access to credit.

Despite this availability of credit to a small proportion of entrepreneurs in the study villages, further analysis reveals high interest rates of credits which were given to people in IGGs. The average interest rate was 88.5% per year. The minimum and maximum charged interests for securing credits were 20% and 200% respectively per year. Twenty nine out of 30 respondents who got credit reported having obtained it from the groups' saving and credit operations. Only one person reported having obtained credit from private money lenders who charged a usurious interest rate of 200% per year. The average amount of credits given to entrepreneurs was Tsh. 192 700. The minimum credit and maximum credit were Tsh. 10 000 and Tsh. 580 000 respectively.

Results also indicate that 33.6% of all households received agricultural extension services in 2009/10. About two-thirds (65%) of households which had received extension services were members of IGGs. This finding implies that people who are in groups have great chances of accessing extension services via village agricultural extension officers, who in most cases prefer visiting smallholder farmers who are groups. On top of extension officers preferring visiting farmers who are in groups it is also expected that when farmers are in groups, they become aware and motivated by their fellow group members. Also agricultural innovations are more likely to be adopted by farmers who are in groups.

Findings on participation in business training reveal small proportion of households who had participated in business related training. Slightly more than one-tenth (13.3%) of heads of household benefited from training programmes. Like-wisely, as in the previously economic services, more households which benefited from the business training were those which were in IGGs. The small proportion of participation by households in business training is, however not strange, since the responsible officers at the district level admitted that they were unable to provide sufficient business trainings in 2009/10 to socioeconomic groups due to budgetary constraints. Agricultural extension and business advice pieces which were provided to the respondents are presented in Tables 9 and 10 respectively.

4.4.2 Improved agricultural inputs and agricultural arable land

Results on the use of improved agricultural inputs and agricultural land by respondents are presented in Table 10.

Table 10: Access to economic services by respondents

Economic service	Households in groups		Households not in groups		Total	
	No.	%	No.	%	No.	%
Improved agricultural inputs						
Users	30	46.90	23	35.90	53	43.40
Non-users	33	53.10	36	64.10	69	56.40
Total	63	100.00	59	100.00	122	100.00
Agricultural land (ha.)						
<2	56	88.9	49	83.0	105	86.1
2	4	6.3	2	3.4	6	4.9
>2	3	4.8	8	13.6	11	9.0
Total	63	100.0	59	100.0	122	100.0

Results on the use of improved agricultural inputs reveal that 43.4% of all households which were involved in farming used improved agricultural inputs. The agricultural inputs which were considered in this study were mainly fertilisers, maize seeds, and agro-chemicals. Information on total agricultural land that was used for crop production was also collected. The results also show that most of the households (86%) which participated in farming activities cultivated a land of less than one hectare. Only 4.9% of all households cultivated a land within a range of one to two hectares; only nine percent of all households cultivated an agricultural land of more than 2 hectares. From these results, it is deduced that only nine percent of all households cultivated an agricultural land that was within the national target of at least every household cultivating 2 hectares of land for agricultural food production per year.

4.4.3 Types of agricultural extension advice and business advice

Respondents were asked to state types of agricultural extension and business advices they received in 2009/10. Results on types of agricultural extension and business advices received by respondents are presented in Table 11 and Table 12 respectively.

Table 11: Extension advice pieces provided to respondents (n = 44)

Extension advice	Count	Percentage of responses	Percentage of cases
Weeding timely	18	15.9	40.9
Proper and timely harvesting	7	6.2	15.9
Planting by space	22	19.5	50.0
Proper and timely use of fertilisers	27	23.9	61.4
Good storage of harvested crops	3	2.7	6.8
Seedbed preparation	1	0.9	2.2
Timely farm preparation	6	5.3	13.6
Cropping or cultivation system	5	4.4	11.4
Use of improved goat breeds	1	0.9	2.3
Good palm production practises	2	1.8	4.5
Field fire prevention practises	1	0.9	2.3
Uprooting infected plants from the field	1	0.9	2.3
Mulching of the farm soil	4	3.5	9.1
Proper and timely application of pesticides	7	6.2	15.9
Timely pruning of coffee and or banana	8	7.0	18.2
Total	113	100	256.8

84 missing cases; 44 valid cases

Only 44 respondents out of 128, equivalent to 34% of all respondents, benefited from agricultural extension services. Extension services were provided by village extension officers in the respective villages of residence. Results indicate that the most frequent agricultural advice pieces were usage of fertilisers (61.4%), planting by space (50.0%) and weeding (40.9%). Only 17 respondents out of 128 respondents, equivalent to 13% of all respondents, benefited from business training services which were provided by district council's officers. Results in table 10 indicate that fewer households in the study villages had access to agricultural services.

Table 12: Business advice pieces provided to respondents (n = 17)

Business advice	Count	Percentage of responses	Percentage of cases
Requirements for starting a business	1	3.7	5.9
Marketing	7	25.9	41.2
Capital mobilisation	4	14.8	23.5
Profit maximisation	4	14.8	23.5
Financial management	2	7.4	11.8
Formulation of business plans	1	3.7	5.9
Processing	2	7.4	11.8
Formulation of business groups	1	3.7	5.9
Making of improved beehives	1	3.7	5.9
Production of candles	1	3.7	5.9
Making of building bricks	1	3.7	5.9
Records keeping	1	3.7	5.9
Diversification of economic activities	1	3.7	5.9
Total	27	99.9	159

111 missing cases; 17 valid cases

Results in Table 12 show that the frequent pieces of business advice which were provided to respondents were on marketing, capital mobilisation and profit maximisation. The results reveal that the majority of respondents have limited access to business services.

4.5 Impact of Membership in Groups, Gender of Heads of Household and some Differences in Net Household Product by Membership in Groups and Sex of Household Head

4.5.1 Membership in groups and net household product per capita

Results from the independent samples t-test are presented in Table 13. As seen in the table, households whose heads were in income generating groups had higher net household product per capita than households whose heads were not in income generating groups. However, the difference in mean net household product per capita was not significant ($p = 0.910$). Therefore, the null hypothesis number one which stated that ‘the net household products of households in groups and those not in groups do not

differ significantly' was accepted. The lack of significant difference in mean net household product per capita between households whose heads were in groups and those whose heads were not in groups may be due to insufficient economic services and lack of commitment in carrying out income generating activities be it in groups or on individual basis.

Table 13: Results from independent samples t-test analysis

Variables compared	n	Mean	t=value	p=value
Net household product per capita of households in groups	64	115 698		
Net household product per capita of households not in groups	64	112 991	0.135	0.910
Net household product per capita of male headed households	82	137 154		
Net household product per capita of female headed households	46	73 684	2.608	0.010**

4.5.2 Gender and net household product per capita

The results from the independent samples t-test on difference in NHP by sex of heads of household are presented in Table 13. The results show that the mean value of net household product per capita of male-headed households' was higher than that for female-headed households. Furthermore, the difference in mean values of net household product per capita between male-headed households and female-headed households was found to be significant ($p = 0.01$). Therefore, the null hypothesis that 'net household product per capita of female headed households does not differ significantly from net household products of male headed households' was rejected in favour of the alternative one. This was probably due to inequitable access to and control of productive resources

by men and women as a result of different social positions that are headed by men and women in most societies (Izumi, 2007).

4.5.3 Impact of some production variables on Net Household Product per capita

Regression analysis was used to determine the impact of some production variables on net household product per capita. Results from regression analysis are presented in Table 14.

Table 14: Results from regression analysis

Variables	Unstd Coefficients		Std Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	13 616.56	10 315.76		1.320	0.189
Age (years) (x_1)	-239.97	177.96	-0.019ns	-1.348	0.180
Schooling years (x_2)	57.86	668.81	0.001ns	0.087	0.931
Household size (x_3)	-302.21	634.89	-0.006ns	-0.476	0.635
Distance (Km) to market place (x_4)	-357.39	1 363.56	-0.003ns	0-.262	0.794
Agricultural land per capita (x_5)	32 315.00	18 116.35	0.024ns	1.755	0.082
Credit per capita per year (x_6)	-0.03	0.12	-0.003ns	-0.248	0.805
Total production capital per capita per year (x_7)	-0.94	0.03	-0.745***	-35.043	0.000
Gross monetary value of products and services per capita per year (x_8)	0.96	0.014	1.473***	67.970	0.000

***= Significant at the 0.1% level, ns = Not significant

The multiple regression correlation coefficient, R, was 0.99. This means that the independent variables which were used in the regression model, collectively, were highly associated with the dependent variable. The coefficient of determination, R^2 , was 0.98

implying that the independent variables accounted for 98 percent of variation in the dependent variable. The remaining variation, that is 2 percent, was explained by other independent variables which were not included in the multiple regression analysis model, incorrect model formulation and errors in the research (Mendenhall and Beaver, 1991).

The dependent variable NHP per capita was positively related to gross monetary value of products produced and services provided with a regression coefficient of 1.473. The impact of gross monetary value of products produced and services provided on NHP per capita was significant ($p = 0.000$). This supports the correlation results which showed a very high positive correlation between gross monetary value of products produced and services provided and net household product per capita (Appendix 4). This finding suggests that the higher the monetary values of products produced and services provided generated the higher the net household product per capita is also generated.

The second variable which had positive impact was agricultural land per capita used which had a coefficient of 0.024. This had such an impact on net household product per capita since about 77 percent of all households relied on income which was mainly obtained from farming activities. However, the impact of the acreage on net household product per capita was not significant ($p = 0.082$). Schooling years of heads of household was the third important variable for increasing net household product per capita. Its coefficient was 0.001. This implies that as heads of household spend more years on schooling the greater the chances are of raising the net household product per capita values. Again, the impact of schooling years of heads of household on the net household product per capita was not significant ($p = 0.931$).

The total production costs per capita, the amount of credit per capita received, distance to the market place of the household, household size and the age of household heads had

negative impact on net household product per capita. The impact of total production costs on net household product per capita had negative impact ($\beta = -0.745$) on NHP. The negative impact of total production costs per capita on net household product per capita was significant ($p = 0.000$). This implies that households were more likely to increase the net household products per capita by minimising the costs of production. The amount of credit per capita used in the production had negative impact on net household product per capita. This is presumably so since the access to production credits is associated with an increment in total costs of production.

The distance of the household from the market place impacted negatively on net household product with a standardised β -weight of -0.003 . This negative impact implies that as households are located closer to a market place the greater the chances of earning more income by reduction in costs associated with transportation of commodities to the market place. Age and household size had negative relationships with net household products per capita with standardised β -weights of -0.006 and -0.019 respectively. The impacts of age and household size on net household product per capita, however, altogether were not significant with p-values equal to 0.635 and 0.180 respectively.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Based on the finding from this study that 76.6 percent of households depended on farming activities as their sources of income, it is concluded that agriculture is still a mainstay of people's livelihoods in the district. Also based on the finding that more households in income generating groups participate in selling food crops and operating small shops as off-farm main income generating activities, it is concluded that membership in groups influences positively off-farm activities. Again based on the finding that 83% of all households diversified their income generating activities, it is concluded that other income generating activities different from main income generating activities contribute to the wellbeing of rural households. The majority of households diversified their activities by participating in cultivation of food crops, selling food crops, livestock keeping and cash crops production as their other income generating activities. Diversification in small proportion was noted in off-farm activities

Findings on net monetary values of products produced and services produced revealed that among the most grown staple food products maize fetched lower net monetary value of Tsh. 70 810 as compared to cassava (Tsh. 333 000), banana (Tsh. 204 500) and beans (Tsh. 107 400). Notwithstanding maize being the most grown food crop in the study villages, it is concluded that maize productivity in the study areas is very low. Based on the finding that rice had a far higher net monetary value (Tsh. 1 450 167) than the rest of food crops, it is concluded that rural households can improve their incomes by carrying out rice production. Regarding livestock products, the findings showed that poultry keeping was more lucrative as it fetched high net monetary value (Tsh. 132 985)

compared to net monetary values obtained from goats (Tsh. 95 285) and sheep (Tsh. 87 000). Local soap making business had high net monetary value. Based on these findings, it is concluded that households in Kigoma District can raise their incomes by participating in poultry production and local soap business.

Basing on results obtained from independent samples t-test analysis, which showed that households whose heads were in income generating groups generated mean net household product per capita of Tsh. 115 698, a value which was higher than Tsh. 112 991 for households whose heads were not in income generating groups, it is concluded that membership in income generating groups is positively related to net household product per capita of households, albeit the difference in net household product per capita of households in income generating groups and those which were not was not significant.

Also the findings that mean net household product per capita (Tsh. 137 154) of male headed households was higher than Tsh. 73 684 for female headed households imply that gender influences household welfare in terms of net household product per capita. Therefore, it is concluded that households' headship has positive relationship with households' wellbeing in terms of net household product. Male headed households are comparatively more likely to be well-off economically than female headed households.

It was observed from the findings that households whose heads were in income generating groups got more of economic services than households which were not. More households in income generating groups benefited more from credits, agricultural extension services, business trainings and agricultural inputs namely modern fertilisers. Based on the finding that over 93% of heads of household who got credit obtained it

from group members' savings, it is concluded that there are limited sources of micro-credit providers in Kigoma District.

Based on the finding that 91% of all households cultivated on average small agricultural land plots of less than two hectares, it is concluded that the target of ensuring each household cultivates two hectares of agricultural land per year is yet to be achieved in Kigoma District. This is a typical finding of most rural areas where regardless of the majority of rural households being dependent primarily on agricultural production yet the size of agricultural land cultivated by each household per year is considerably too small to meet food requirements of households.

Based on the findings from regression analysis that gross monetary value of products produced and services provided, agricultural land per capita and schooling years of heads of households had positive impact on net household product per capita; it is concluded that: (a) as more monetary values of products and services are generated, the more net household product per capita is also produced; (b) the bigger the area for agricultural production is used by households the more net household product per capita is also generated; and (c) the more the schooling years of heads of household the more the net household product per capita will be produced.

5.2 Recommendations

Based on the above conclusions the following recommendations are made to help different development stakeholders at various levels including the rural households themselves on how income generating activities may contribute significantly to households' income.

5.2.1 Recommendations for decision makers

Based on the conclusion that livelihoods of the majority of rural households still depend mainly on agricultural production which is being carried-out on small plots, and in most cases is characterised by low productivity, it is recommended that the government, through the Ministry of Agriculture and Food Security should strengthen her concerted efforts in empowering rural people to modernise and commercialise agriculture as per objectives stipulated in KILIMO KWANZA and Agriculture and Livestock Development strategies. More specifically, the government is urged to facilitate more availability of modern or improved agricultural inputs, especially subsidised fertilisers and improved seeds to more rural households. Similarly, agricultural mechanisation, but at affordable costs, is recommended for increasing households' total agricultural land cultivated annually.

Based on the conclusion that sources of credit providers are limited in rural areas, it is recommended to the government and policy makers to formulate policies that will enable people in income generating groups and those who are to expand their financial capital base by accessing formal credits from formal institutions. The current trend of group members depending solely on their deposited savings to access credits makes them vulnerable to receiving smaller amounts of credit and with usurious interest rates.

5.2.2 Recommendation for development partners

Development partners such as international and national or regional NGOs and CBOs are urged to increase their concerted efforts of empowering rural households by building capacities more specifically on skills development which is essential for starting economically feasible off-farm activities. Development partners are also urged to mobilise rural households to be involved in poultry production. Poultry production,

according to the conclusion remarks, is a more lucrative activity in rural areas. Therefore, development partners are requested to assist in mobilising rural households and also providing technical and business skills required for them to start poultry keeping activities and other off-farm IGAs.

5.2.3 Recommendation for the District Council Facilitators

Following the conclusion that rural households are more involved in farming activities, it is recommended to the district council to mobilise rural households to establish non-farm activities to complement incomes obtained from farm activities. Where special skills are needed for rural households to establish certain off-farm activities, it is recommended that the district council should build capacity of rural people in income generating groups to be able to run off-farm activities. Equally important, it is recommended that the district's facilitators should identify more feasible and more lucrative activities which when supported by the council may contribute substantially to raising incomes of many rural people households. Also district facilitators should conduct regular, timely and close supervision and monitoring of IGAs of people in IGGs.

Based on the conclusion that rice production is associated with high net monetary values of product, it is recommended that arrangements should be made by the district council to ensure that more households get involved in rice production, provided that essential requirements for rice production exist in the respective villages of residence. Since it has been established that people in income generating groups have comparative advantages in accessing socioeconomic services, it is recommended that the district should continue mobilising people to join in groups. However, attention is also required by the district facilitators to carry out close supervision and monitoring of group processes. Arrangements should also be made on promoting groups which have group productive

activities so that benefits accruing to the group as a result of economy of scale are maximised.

Based on the conclusion that male headed households earn more monetary values of products and services than female headed households, it is recommended that efforts should be made by the district council in collaboration with other development partners to ensure that both men and women, and male-headed and female-headed households, participate equally in economic activities and benefit equally from the outcomes of production processes. This is important in ensuring equity as well as equality is realised in the community. Equally, more efforts should be made by the district facilitators to discourage cultural and traditional customs that give rise to gender discrimination in the production process.

Also, based on the conclusion that monetary values of products produced and services provided are associated with higher net household product per capita, it is recommended to the district facilitators to provide regular entrepreneurship training to entrepreneurs. Equally important, it is recommended that district facilitators should mobilise rural people to cultivate more agricultural land per capita in addition to regular provision of agricultural extension services.

5.2.4 Recommendations for people at household level

In order for rural people to escape from the trap of income poverty it is recommended that they should combine both farm and non-farm activities in a way that maximises profitability. It is also recommended that more rural people should join income generating groups for them to access socioeconomic services necessary for running income generating activities in a lucrative manner. They are also urged to make use of

available and often less utilised household labour in doing production activities, be it farm related or off-farm related activities. Regarding agricultural production, rural people are argued to expand total annual agricultural land in order to get more food products for their household members' food requirements and for sale to get cash non-food basic needs. It is also recommended that people in groups and those not in groups at household level should make use of skills and economic services in improvement of productive activities, including productivity per area of land and unit of input.

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APPENDICES

Appendix 1: Interview schedule used for structured interviews

Introductory Remarks

Dear household head,

Your household has been randomly selected among households from which data are going to be collected so as to find out the contribution of income generation groups on poverty reduction in Kigoma District.

All information you give will be treated confidentially until recommendations on income generating groups regarding rural poverty reduction are drawn from the information.

Therefore, kindly respond truthfully to all of the following questions/items.

I. Household Identification

Name of the household head

DivisionWard Village

Date of interview Name of interviewer

II. Socio-Demographic Factors

1. Sex of household head: Male = 1 Female = 2

2. Age of household head (years) ()

3. Years spent on schooling by household head ()

4. Marital status of household head

Married	Widowed	Divorced	Separated	Single
1	2	3	4	5

5. Household size ()

6. What is your religion?

Muslim	Christians	Others (specify)
1	2	3

7. Household composition

Household Members	Name	Sex	Age
Household head		1 = male	
		2 = female	
spouses:	1.	1 = male	
		2 = female	
Children:	1.	1 = male	
		2 = female	
Other members	1.	1 = male	
		2 = female	

III. Income Generating Variables

A. Skills

8. Which of the following skills do you possess?

Carpentry	Masonry	Tailoring	Bicycle repair	Welding	Others (specify)
1	2	3	4	5	6

B. Main income generating activity

9. What is the main income generating activity of the household?
(.....)

C. Experience in doing the main IGA

10. How many years have you been doing the income generating activity in 9 above?

D. Sources of household incomes

11. From which of the following activities did your household generate income in 2009/10?

Activity	code	Activity	code	Activity	code	Activity	code
Cultivation (food crops)	1	Selling of agricultural products	6	Selling firewood/ charcoal	11	Selling of palm oil/palm by-products	16
Cultivation (cash crops)	2	Cooked food vending	7	Beekeeping	12	Wage labour	17
Livestock keeping	3	Carpentry	8	Selling iodised salt	13	Kiosk/shop	18
Fishing	4	Tailoring	9	Making/ selling of soap	14	Local beer brewing	19
Harvesting forest products	5	Selling sardines and fish	10	Palm oil processing	15	Weaving/basketry	20
Pottery	21	Remittance	22	Renting	23	Others (specify)	24

E. Information on sources of capital

12. What was the amount of capital in Tsh. of your main income generating activity?

Capital type	Source of credit	Amount in Tsh.
1. Credit		
2. Own source		
3. Other source (specify)		
Total		

In case the respondents in 15 above obtained credit, then, ask questions 13-17.

13 What was the total amount in Tshs. required to repay the credit? (.....)

14 What was the duration in months of repaying the credit (.....)

15 What amount of the credit received has been repaid so far? (.....)

16 What was the grace period in months? (.....)

17 What was the repayment plan of the credit?

End of a month	1	End of a year	2	Other (specify)	3
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G. Membership in income generating groups

19. Are you a member of income generating groups? 1 = Yes 2 = No
 If yes in question 19, then ask questions 20.
 20. What is the name of group in which you are a member? (.....)

H. Information of Socioeconomic Services

21. Did you have contacts with agricultural extension officers in 2009/10?
 Yes = 1 No = 2
 22. If yes to question 21, how many times did you receive advice from him or her for the last 12 months?
 23. What advice did he or she give you?

 24. Had the advice been beneficial to you? Yes = 1 No = 2
 25. If Yes in question 24, explain how?

I. Information on accessibility to business services

26. Did you have contacts with business trainers in 2009/10? Yes = 1 No = 2
 27. If yes to question 26, how many times did you receive advice from him or her for the last 12 months? (.....)
 28. What advice did he or she give you?

 29. Has the advice been beneficial to you? Yes = 1 No = 2
 30. If Yes in question 29, explain how?

J. Information on utilization of improved agricultural inputs

31. Did you use improved agricultural inputs in crop production in 2009/10?
 Yes = 1 No = 2
 32. If yes in question 31, then give the required information in the table below.

Input	Type	Amount used per acre in bags	Price in Tsh. per bag	Total costs
Fertilizer				
Maize seeds				
Rice seeds				
Pesticides				

K. Information on land used for agricultural production

33. What acreage of agricultural land do you own? (acres)
 34. What is the total acreage for crop production by your household in 2009/10

THANK YOU FOR GIVING ME IMPORTANT INFORMATION

Appendix 2: Checklist used for key informant interviews

Introductory Remarks

Dear, Sir/Madam

Based on your experience of working in Kigoma district where a research on Income Generating Groups and Poverty reduction is being conducted, you are requested to give information to supplement the information that will be given by study sampled respondents in district’s selected villages.

All information you give will be treated confidentially until recommendations on income generating groups regarding rural poverty reduction are drawn from the information.

Therefore, kindly respond truthfully to all of the following questions/items.

I. Identification of the Officer

- 1.Name of the officer
- 2.Designation
- 3.Location

II. Income Generating Activities

- 4.What are the income generating activities which are done by people in the district
- 5.What are the income generating activities which are done by people who are in income generating groups?
- 6. Which services are provided by your institution with respect to income poverty reduction in the district?
- 7.Does your institution provide credits to people who are in income generating groups?
- 8.How many groups and individuals that benefited from credits from your institution in 2009?

Number of groups	Number of individuals

- 9.How many groups and individuals that benefited from extension or business training services that were provided by your institution in 2009?

Number of groups	Number of individuals

- 10. What agricultural inputs were provided on loan basis or as grants to people in income generating groups in 2009/10?
- 11. Which working tools or equipments were provided to people in income generating groups in 2009/10?

THANK YOU FOR GIVING ME IMPORTANT INFORMATION

Appendix 3: Selected respondents in IGGs and villages (N = 64)

Division of residence	Ward of residence	Village of residence	Name of IGG	Counts	Percent	Cumulative Percent
Mahembe	Matendo	Kidahwe	Muungano	3	20.00	20.00
			Tujihami	2	13.33	33.33
			Zinduka	3	20.00	53.33
			Umoja wa Umwagiliaji	2	13.33	66.66
			Umoja ni Nguvu	1	6.67	73.33
			Upendo Women	1	6.67	80.00
			Jipe moyo	2	13.33	93.33
			Maendeleo	1	6.67	100.00
			Total	15	100.00	
			Ilagala	Ilagala	Ilagala	Turavyuse
Juhudi	1	5.88				64.70
Mwangu	1	5.88				70.58
Yatakamoyo	2	11.77				82.35
Upendo	1	5.88				88.23
Muungano II	1	5.88				94.11
Nguvu Kazi	1	5.88				99.99
Total	17	99.99				
Kalinzi	Kalinzi	Kalinzi	KACOFA	3	21.43	21.43
			Turashashe	5	35.71	57.14
			Kalinzi OFG	2	14.29	71.43
			Amani	1	7.14	78.57
			Kalinzi PWH	1	7.14	85.71
			Tufashanywe	1	7.14	92.85
			Mduara	1	7.14	99.99
			Total	14	99.99	
Ilagala	Simbo	Kasuku	Amani	1	5.56	5.56
			Umoja	3	16.67	22.23
			Juhudi II	3	16.67	38.90
			KPLHA	2	11.11	50.01
			LUICHE-SACCOS	3	16.67	66.68
			Uhuru	3	16.67	83.35
			Amani II	1	5.56	88.91
			Ujamaa	2	11.11	100.02
			Total	18	100.02	

Appendix 4: Correlation matrix of dependent and independent variables

		Net household per capita	Age in years	Schooling years	household size	placeDistance in kilometre to market	Land per capita	Credit per capita used	Total costs of per capita	Gross monetary value per capita
Net household per capita	P. Correlation	1	-.239(**)	0.281(**)	-.175(*)	0.108	0.402(**)	0.195(*)	0.452(**)	0.881(**)
	Sig. (2-tailed)	.	0.007	0.001	0.048	0.226	0.000	0.027	0.000	0.000
	N	128	128	128	128	128	122	128	128	128
Age in years	P. Correlation	-.239(**)	1	-.393(**)	0.199(*)	-.118	-0.021	-0.086	-.251(**)	-.270(**)
	Sig. (2-tailed)	0.007	.	0.000	0.024	.184	0.822	0.334	0.004	0.002
	N	128	128	128	128	128	122	128	128	128
Schooling years	P. Correlation	0.281(**)	-.393(**)	1	0.052	0.061	0.153	0.193(*)	0.239(**)	0.318(**)
	Sig. (2-tailed)	0.001	0.000	.	0.560	0.491	0.092	0.029	0.007	0.000
	N	128	128	128	128	128	122	128	128	128
Household size	P. Correlation	-.175(*)	0.199(*)	0.052	1	0.006	-0.157	-0.016	-0.041	-0.125
	Sig. (2-tailed)	0.048	0.024	0.560	0.000.	0.949	0.084	0.855	0.643	0.158
	N	128	128	128	128	128	122	128	128	128
Distance in kilometre to market place	P. Correlation	0.108	-0.118	0.061	0.006	1	0.075	-0.116	-0.022	0.056
	Sig. (2-tailed)	0.226	0.184	0.491	0.949	.	0.414	0.191	0.804	0.527
	N	128	128	128	128	128	122	128	128	128
land per capita	P. Correlation	.402(**)	-0.021	0.153	-0.157	0.075	1	.051	0.330(**)	0.423(**)
	Sig. (2-tailed)	0.000	0.822	0.092	0.084	0.414	.	0.578	0.000	0.000
	N	122	122	122	122	122	122	122	122	122
Credit per capita	P. Correlation	0.195(*)	-0.086	0.193(*)	-0.016	0.116	0.051	1	0.430(**)	0.361(**)
	Sig. (2-tailed)	0.027	0.334	0.029	0.855	0.191	0.578	0.000.	0.000	0.000
	N	128	128	128	128	128	122	128	128	128
Total costs of per capita	P. Correlation	0.452(**)	0.251(**)	0.239(**)	-0.041	0.022	.330(**)	0.430(**)	1	0.747(**)
	Sig. (2-tailed)	0.000	0.004	0.007	0.643	0.804	0.000	0.000	.	0.000
	N	128	128	128	128	128	122	128	128	128
Gross monetary value per capita	P. Correlation	0.881(**)	-.270(**)	0.318(**)	-0.125	0.056	0.423(**)	0.361(**)	0.747(**)	1
	Sig. (2-tailed)	0.000	0.002	0.000	0.158	0.527	0.000	0.000	0.000	.
	N	128	128	128	128	128	122	128	128	128

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

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