# LAND TENURE SYSTEM AND INCOME POVERTY REDUCTION AMONG FEMALE HEADED HOUSEHOLDS IN MOROGORO DISTRICT, TANZANIA

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN RURAL DEVELOPMENT OF SOKOINE UNIVERSITY OF AGRICULTURE.**

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## ABSTRACT

The objective of this study was three-fold; to determine the land tenure system existing in Morogoro District, to assess the perception of female headed households (FHHs) on the existing land tenure system and to determine income poverty status among FHHs based on existing land tenure systems. The study used a cross-sectional research design; data was collected from 160 FHHs using a structured questionnaire in Matombo, Mkuyuni and Mikese divisions. This study only used primary data, both quantitative and qualitative methods in analysing the data collected. Five Focus group discussions (FGDs) were conducted in the surveyed villages to supplement data collected through the questionnaire. Findings from the research show that customary land tenure system was practised in the area and most of the surveyed households owned land through inheritance. In addition, FHHs had a positive perception on the existing land tenure system. Results from the multiple linear regression analysis show that variables such as occupation of the respondents, market accessibility for the products that households produce, land tenure parameters, households total acreage, marital status, family size and age of respondent were statistically significant ($p \leq 0.05$) on the total household's income of an individual. The study concludes that; customary land Act prevailed in the study area. The FHHs had access to land but had no control over it. Moreover low income persisted among FHHs. The study recommends that; there is a need for FHHs not only to have access to land but to also to have control on it, bearing in mind that this is fundamental means for the poor to participate in agricultural productivity which can then improve their income status.

## DECLARATION

I, Beatrice Kapitingana do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my own original work and has neither been nor being concurrently submitted for a higher degree award in any other institution.

_____ _____

**Beatrice Kapitingana** **Date**

(M.A. Rural Development)

The declaration is confirmed

_____ _____

**Dr. Urassa, J.K.** **Date**

(Supervisor)

## COPYRIGHT

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## DEDICATION

This valuable work is dedicated to my beloved mother the late Chrsitina Damiani Kapitingana, who laid the foundation of my education which makes me what I am today. She always kept on saying “you can do it, I am optimistic just go ahead my daughter”.

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| | |
|---|---|
| ASDS | Agricultural Sector Development Strategy (Programme) |
| DSI | Development Studies Institute |
| ECA | Economic Commission for Africa |
| FAO | Food and Agriculture Organization of the UN |
| FGD | Focus Group Discussion |
| FHH | Female Headed Household |
| GDP | Gross Domestic Product |
| ha | Hectare |
| HBS | Household Budget Survey |
| HDI | Human Development Index |
| IFAD | International Fund for Agricultural Development |
| IFC | International Financial Cooperation |
| IGA | Income Generating Activity |
| ILO | International Labour Organization |
| MDC | Morogoro District Council |
| MDG | Millennium Development Goal |
| MHH | Male Headed Household |
| MKUKUTA | *Mkakati wa Kukuza Uchumi na Kupunguza Umaskini* (Swahili acronym for NSGRP) |
| MKURABITA | M*pango wa Kurasimisha Rasilimali na Biashara za Wanyonge* Tanzania (Swahili acronym for PBFP) |
| MLR | Multiple Linear Regression |
| NLP | National Land Policy |
| NSGRP | National Strategy for Growth and Reduction of Poverty |

| | |
|---|---|
| PBFP | Property and Business Formalization Programme |
| REPOA | Research on Poverty Alleviation |
| SPILL | Strategic Plan for the Implementation of the Land Acts |
| SPSS | Statistical Package for Social Sciences |
| SSA | Sub-Saharan Africa |
| SUA | Sokoine University of Agriculture |
| TAS | Tanzania Shillings |
| UN | United Nations |
| UNDP | United Nations Development Programme |
| URT | United Republic of Tanzania |
| USD | United States Dollar |
| VEO | Village Executive Officer |
| VIF | Variance Inflation Factors |
| WB | World Bank |
| WEO | Ward Executive Officer |

# CHAPTER ONE

## 1.0 INTRODUCTION

### 1.1 Background Information

Throughout Sub-Saharan Africa (SSA), land is a fundamental issue for economic development, food security and poverty reduction for most rural households. Generally, land supports livelihoods and income through farming, livestock production and related activities (Cotula *et al*., 2004; FAO, 2010). Moreover, land is considered important in promoting rural livelihoods because access to land and security of tenure are the main means through which sustainable development can be realized. According to ECA (2004) over 70% of Africa's population derives its livelihood from land and natural resources exploitation.

Literature (UNDP, 2012) shows that, three in four poor people in developing countries live in the countryside and their survival depends on agriculture. In addition, ASDSP (2006) and the World Bank (2010) argue that agricultural income is the main source of income for the poor, especially in rural areas. Agricultural production and development in general needs a critical management of land resources that is; how access to land is regulated, how rights to it are defined and conflicts around land ownership as well as its use are resolved. The UN (2011) points out that, land tenure systems determine who can use what resources for how long and under what conditions. This makes land tenure an important part of social, political and economic structures.

According to ECA (2004), Africa's land tenure system is usually portrayed as either customary/traditional, or state/statutory. Customary land tenure is characterized by its largely unwritten nature, is based on local practices and norms, and is flexible, negotiable

and location specific. Under written laws, land rights are allocated and confirmed through the issuance of titles or other forms of registration of ownership. Under many customary systems, women's inheritance rights are limited; not only within patrilineal systems but also within matrilineal systems, land control usually rests with male family members. However, this does not guarantee security of tenure which is one of the most serious obstacles to increasing rural women's agricultural productivity and income (FAO, 2005).

Odhiambo (2006) points out that land is the key resource that defines not just rural livelihoods but also economic development prospects. Farming seems to be a woman's principal duty and the sale of food and cash crops is still the most important source of their income in rural areas (NBS, 2009). According to ILO (2011), 70-80% of all subsistence farming in Africa is carried out by women. Generally, women make essential contributions to agriculture in developing countries as farmers and through their labour on family farms, other farms, and agricultural enterprises in general. In addition, FAO (2011), points out those women make up approximately 43% of the agricultural labour force in developing countries, ranging from approximately 20% in Latin America to almost 50% in Eastern and South-eastern, Asia and Sub-Saharan Africa. However, women particularly female headed households (FHHs) face problems of low income in Africa (FAO, 2010; IFAD and ILO, 2010).

In Tanzania like in most other African countries, poverty has a gender face with income poverty being more prevalent in FHHs than in male-headed households (MHHs) (Diop, 2005). Rural women's poverty is somehow linked to their access and control over land. For example Kamau (2012) points out that in Morogoro District, FHHs record higher levels of income poverty than MHHs due to deeply rooted and insecurity in access to land among other factors. According to literature (Son, 2007; UNDP, 2012; Karugia *et al*.,

2006), land tenure security greatly matters to producers. For example Karugia *et al*. argue that for a large part access to productive land is an important source of income in the rural areas even where farm sizes are small. It is against this background that there was a need of exploring the relationship between land tenure and income poverty using Morogoro District as a case study.

**1.2 Problem Statement**

Since independence, Tanzania has tried to deal with rural poverty. However, income poverty is alarmingly high among FHHs despite many efforts aimed at improving women's livelihoods. Literature (UN-Habitat, 2011; Ruheza *et al*., 2012; Martin *et al*., 2013), shows that insecure land tenure, unequal distribution and sub-optimal utilization of land among others, hinders FHHs from venturing into different economic enterprises. According to Cotula *et al.* (2006), women constitute a large portion throughout the world of the economically active population engaged in agriculture both as farmers and farm workers. However, households with single women as heads can potentially face even higher risk of poverty because of cultural and social stigma attached to their marital status. Besides, the prevalence of FHHs is generally higher in SSA than in other regions (FAO, 2011). For instance in Malawi about 70% and Uganda, 63% of all FHHs are *de_jure*. Peters (2007) reported that today, more and more women are heading rural households and that nearly 25% of rural households are female headed in patriarchal communities. Though, several studies (Hill, 2011; Kamau, 2012; Aikael, 2010; IFAD, 2012), have been done on women's income poverty reduction, little has been done on land tenure system and income poverty reduction among FHHs. According to ILO (2011), women tend to be poorer than men, and 70% of the 1.3 billion people living in poverty are females. Estimates over a 20-year period found the increase in numbers of poor rural women in 41 developing countries to be 17% higher than the increase in poor men. In addition, 75% of

Tanzania's women live in absolute poverty resulting in an increase in the gap between men and women's welfare (URT, 2008). Morogoro District is not exceptional, almost half of the FHHs are said to be poor (URT, 2012). The current study therefore, assesses the relationship between land tenure system and income poverty in Morogoro District.

### 1.3 Justification for the Study

As pointed out in sub-sections 1.1 and 1.2, women are important players in SSA's agricultural sector. However, their access and control over land is limited. Hence there was a need to conduct a study on land tenure and women's income poverty as it has been underscored that, access and control over land is earmarked as one of the devices of women's income generating source (UN-habitant,2011; IFAD, 2010; FAO, 2011).

According to UNDP (2009), Tanzania is not improving much based on human development indicators as her HDI is 0.530 and her position in 2013 was 152 out of 187 countries. The above is happening despite the fact that Tanzania's GDP increased from 2.6% in 2000 to about 4.7% in 2008/09 being an increase of only 0.3% from the records of the previous year 2007/08 (7.1%). Additionally, UN-habitant (2011) reported that, globally an estimated 41% of women headed households live below the locally defined poverty line.

The current study is in line with the Millennium Development Goals (MDGs) that; Agriculture and rural development are essential to eradicate extreme poverty and hunger by half by the year 2015 (WB, 2008). Moreover, the study is in line with Tanzania's National Strategy for Reduction of Poverty (NSGRP II) commonly known as (MKUKUTA II) cluster 1 on "growth and reduction of income poverty" goals 4 and 5, which aim at reducing income poverty of men and women in urban and rural areas

(PHRD, 2011). Nevertheless, Tanzania's gender policy states that; 'Tanzania believes in equality and rights of each person... right to ownership of property and productive resources' among others (URT, 1992). In addition, the current study's findings will broaden knowledge on the importance of land security to women's income poverty reduction. This could enhance efforts by the government and development partners in addressing the challenges of income poverty and economic growth in general. Moreover, findings from the study could be useful in the implementation of the existing land policy and the 1999 village and land acts which highlight lawful rights of land ownership to marginalized groups, women included not only in matriarchal communities, but also in patriarchal communities. Section 20 (1) (2) of the Village Land Act No.5 specifically states that;

> "Customary laws have to be in accordance with the National Land Policy (NLP) of 1997 and with any other written law including the Constitution. Therefore, customary law is void and inoperative when it denies women, children or persons with disability lawful access to ownership, occupation or use of land (URT, 1999: 95-96)."

## 1.4 Research Objectives

### 1.4.1 General objective

The study's general objective was to assess the relationship between land tenure system and income poverty reduction among female headed households in Morogoro District.

### 1.4.2 Specific objectives

The study specifically aimed;

i. to examine the land tenure system existing in the study area

ii. to assess the perception of female headed households on the existing land tenure system.

iii. to determine the level of income poverty status among female-headed households based on the existing land tenure systems.

## 1.5 Research Question

i. Are women aware of their rights in accordance to the 1999 Village Land Act?

ii. Do women really own and control the land they use?

iii. What are rural women's opinions in relation to land ownership?

## 1.6 Research Hypothesis

Null Hypothesis ($H_0$): Land tenure system has no significant influence on income poverty status among female headed households

# CHAPTER TWO

## 2.0 LITERATURE REVIEW

### 2.1 Definition of Key Concepts

#### 2.1.1 Land

According to the Land Act No.5 of 1999, land is defined as the surface of the earth, earth below the surface and all things naturally growing on the land, as well as land covered by water. Land is a major production resource and lack of control over this important resource has been a major limiting factor to women's productivity.

#### 2.1.2 Land rights

Land rights are defined here as claims that are legally and socially recognized and enforceable by an external legitimized authority, be it a village-level institution or some higher level body of the State. Land rights can stem from inheritance, transfers from the state, tenancy arrangements, and land purchase. They can be in the form of ownership or usufruct (rights of use), and can encompass differing degrees of freedom to lease out, mortgage, bequeath, or sell (Komu, 2003; IFAD, 2008).

***Use rights:*** rights to use the land for grazing, growing subsistence crops, gathering minor forestry products.

***Control rights:*** rights to make decisions how the land should be used including deciding what crops should be planted, and to benefit financially from the sale of crops.

***Transfer rights:*** right to sell or mortgage the land, to convey the land to others through intra-community reallocations, to transmit the land to heirs through inheritance, and to reallocate use and control rights (IFAD, 2012).

Land rights have increasingly come to be perceived as embedded within the broad spectrum of human rights and are related to the notion of rights to food and to existence. Land rights are allocated and confirmed through the issuance of titles or other forms of registration of ownership. However, in practice there is a lack of clear distinction between these two models of land tenure (Cotulla *et al*., 2004). On the other hand in Africa, customs exclude women from property ownership. Property is held in a man's name and is inherited through male lineage. A widow's right to remain on the land she has farmed with her husband is not secure. Generally, traditional or customary systems that might have protected a woman's access to land during her lifetime are breaking down under population, economic and environmental pressures.

### 2.1.3 Land tenure

The term "land tenure" is a concept derivative of the "natural resource tenure" which in essence refers to the terms and conditions under which natural resources are held and used (Shivji *et al.* 1998; FAO, 2011). Meanwhile the concept of "tenure" is a social construct that defines the relationship between individuals and groups of individuals by which rights and obligations are defined with respect to control and use of land (ECA, 2004). In addition, FAO (2002) and UN (2011), define land tenure as an institution or rules of land ownership, use, and management, obligations, responsibilities and constraints on how land is owned and used. It is commonly said to be 'secure' if it assures owners that their rights will be free from expropriation, encroachment or forced eviction. For centuries traditional land tenure systems in Africa "have made most women little more than temporary custodians of the land as it passed from father to male heir" (Cotula *et al*., 2009).

### 2.1.4 Land ownership

Land ownership (land rights) is generally defined by the land tenure system which basically determines the ability of individuals to gain access to land as well as to security over its use. Ownership of land is different from ownership of other property in that it is

the legal possession of certain rights and obligations. Although some of the rights may be held by the individuals, some may be held by groups and others by political bodies. According to (Cotula *et al*., 2004; Alden, 2011) no single individual holds land in a totally exclusive way.

### 2.1.5 Income

According to the ILO (2003), income is defined as all receipts whether monetary or in kind of 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. In the current study the amount gained in Tanzanian shillings per annum is considered as an operation definition of income.

### 2.1.6 Income poverty

The term income poverty is used to express a situation where people have no ability to find the minimum level of income to satisfy daily needs. Minimum income level as defined by UN is at least one USD ($ 1) or two USD ($ 2) per day (UNDP, 2003: 2006). Tanzania uses one US ($) dollar per day in real terms (using purchasing power parity exchange rate) as well as food poverty line to determine the income poverty status of an individual and to allow comparison with other countries. According to URT (2013), 33.6% of Tanzanians fall below the basic needs poverty line and 16.5% below the food poverty line. Furthermore, Tanzania is one of the poorest countries in terms of per capita income, ranking 202$^{nd}$ out of 208 countries in the world for purchasing power parity, with the hard core poor living in rural areas (Mftransparency, 2011). In addition, poverty remains highest in rural areas, where 37% of the population falls below the basic needs poverty line (Rweyemamu, 2009). Basing on official population projections URT (2013), there are 13.5 million Tanzanians below the basic need poverty line, in 2000/01 there were

approximately 11.4 (URT, 2007). However, the basic needs poverty line seems to be 40.1% in 2008/09 while food poverty line is 20.4% in the same period (URT, 2009).

Although the Human Development Index (HDI) for Tanzania rose from 0.458 in 2000 to 0.530 in 2007, poverty in the country is still widespread and acute. The NGSRP II commonly known as *MKUKUTA* targeted at reducing the proportion of rural population (men and women) below the basic needs from 38.6% to 24% and food poverty lines from 27% to 14% from 2000/01 to 2009/10 (URT, 2005). The basic needs poverty line was 40.1% in 2008/09 implying it has risen while food poverty line is 20.4% in the same period (URT, 2009), representing a decline since 2000/01 and 2007. Generally, the percentage of households below the basic needs poverty line fell by only 1.1 in rural areas and the incidence of food poverty declined by 2.0% (Aikael, 2010). This is marginal improvement despite the wide recognition that the country is economy is heading in the right direction. Policy Forum and Twaweza (2012) noted the IMF pointing out that in the last two decades (between 1990 and 2012) the Tanzanian economy went through a period of successful transition in which economic liberalization and institutional reform led to a recovery of GDP growth to more than 7% per year since 2000. If the noticeable improvement in well-being for the majority of Tanzanians is to be achieved especially among women who are the main land users, these data point to the need for greater efforts to alleviate income poverty, particularly in rural areas, Morogoro District inclusive.

### 2.1.7 Female Headed Households (FHHs)

Female Headed Household refers to a unit of residence where an adult woman; herself alone, with children and other dependents; resides without a male partner. The FHHs occurs due to different reasons *de_facto* and *de_jure*. A *de_facto* FHH occurs when a woman is married but her husband is mostly or permanently away. Growing male rural to

urban migration is leaving women as *de_facto* heads of the households without management authority over land resources. A *de_jure* FHHs occurs when a woman is widowed, unmarried or divorced and has no legal partner. According to Peters (1995) as cited by Takane (2007) *de_jure* FHHs differ from *de_ facto* FHHs as they lack income and are more likely to be among the very poor. Although females put in a lot of energy and time for agricultural production, their agricultural output remains low due to certain factors including lack of access and control of land among others (Peters, 2010). With shortage of land, women heads of household are often forced to make adjustments to cropping patterns and farming systems. Not surprisingly, these households often suffer from increased malnutrition, food insecurity and extreme income poverty (Horrell, 2006).

### 2.2 Land Tenure and Gender Relations

Women are recognized as playing a pivotal role in maintaining and strategically using land and natural resources. The predominance of patriarchal system relegates women and children to minority positions, ensuring that women only have access to land and related natural resources through their spouse or male relatives. In the late 1970s it was already being argued that female headed households (FHHs) were "the poorest of the poor" (Peters, 2007; UN, 2010). During the 1990s, although the number of FHHs increased overall, needy households represented the largest proportion of female headships and continued to increase. FHHs mostly find that *de_ jure* households are more likely to suffer from a range of economic and social disadvantages (Seebens, 2010). In Malawi, Panama and Uganda about 70%, 63% and 83%, respectively, of all FHHs are *de_ jure* (Chipande, 1987; Appleton, 1996; Fuwa, 2000 as cited by FAO, 2011).

### 2.3 Characteristics of Income Poverty

Poverty is largely a rural phenomenon: incomes are lower and it is widespread and deeper than in urban centres. According to NBS (2009) the basic needs rural poverty incidence is

estimated at 57% and food incidence is about 32%. The poor are concentrated in subsistence agriculture. The NBS (1993/94) indicates that within rural areas farmers are poorer than non-farmers. In addition, the NBS (2009) reported that the poverty incidence for households whose heads work in own farmers is 74%. The youth, the old and large households are more likely to be poor. Again NBS (2009) reported that 44% of the population is below the age of 15, and 4% are aged 60 or over, implying a dependency ratio of over 0.9. The proportion of the poor increases as the level of dependency rises (NBS, 2009).

Although FHHs are not necessarily poorer than MHHs, women are generally perceived to be poorer than men. Women represent 51% of the current population report (URT, 2012) and a poverty incidence level to be 45% among FHHs (NBS, 2009).

**2.4 Income Poverty Indicators**

Numerous indicators have been used to measure the standard of living. Household consumption expenditure is regarded to be the basic measure for assessing income poverty. The household consumption expenditure includes home produced goods and services which is compared with a poverty line. The poverty line represents the cost of a basic basket of consumption such that households that fall below the poverty line are considered to be poor. Individuals are classed as poor if they live in a poor household. Total income can be used to determine income poverty status of an individual. It is prudent to use income rather than consumption in measuring living standards due to the fact that; first, indifference between the current consumption and income measuring between countries, secondly the appropriateness of income as an indicator of access to resources. The focus should be on the budget constraints and opportunities open to individuals rather than consumption choices (URT, 2008).

## 2.5 Measures of Income Poverty

Descriptions of poverty tend to fall into one of the two models, the "Absolute" model and the "Relative model." According to the UN (2003) absolute poverty is "inability of an individual or household to attain a minimal standard of living", measured in terms of consumption or income levels. Essentially absolute poverty occurs when poverty is related to deprivation in regard to some minimum set of needs. Head count index (the proportion of the population below the poverty line) is one among the measures of absolute poverty. Relative poverty occurs when a comparison is made between different segments of society and relates to issues of equity.

## 2.6 Relationship between Land Tenure System and Income Poverty

Using household survey data from five countries (Ethiopia, Kenya, Rwanda, Mozambique and Zambia) Jayne *et al.* (2002) noted that, in countries where 70-80% of the rural population derives the bulk of its income from agriculture, poverty reduction typically depends on agricultural productivity growth. Therefore, there is a need to consider tenure security in order to improve agricultural performance. Literature (Chikaire *et al.*, 2010a; Sen and Jones, 2006) suggests that, security of tenure is the key to having control over major decisions, such as what crop to grow, what techniques to use, what to consume and what to sell. Besides, low incomes and poverty were highly correlated with agricultural performance which has been influenced by several factors, land tenure security being one among many.

Midori (2011) reported that, women cannot access credit and membership of agricultural associations due to land insecurity, particularly those responsible for processing and marketing. Their access to technological inputs is limited; they are frequently not reached by extension services and are rarely members of cooperatives, which often distribute

government subsidized inputs and vital market information to small farmers. In addition, they lack the cash income needed to purchase inputs even when these are subsidized.

Tanzania's land tenure regime is quite complex as suggested by several authors or researchers (Daley 2005a; 2005b; Maoulidi, 2007; Hundsbaek, 2010). Its basis is derived from two basic laws that were passed in the Land Act. No.4 of 1999 (URT, 1999a) and the Village Land Act No. 5 of 1999 (URT, 1999b) which states that "all *the land in the country is public whereby the President holds it in trust for all the Citizens".* The president delegates power to designate, adjudicate and modify the land tenure status to the Commissioner for Lands. However, there are concerns that, laws are sometimes not fully implemented and community participation might be limited to village elites and officials, instead of involving the people who might be most affected, hence; there is a lot of tenure insecurity (Cotula *et al*., 2009). Women in Tanzania own only about 19% only of the titled land, and the average land holding size is less than half that of men ranging from 0.21 to 0.3 ha compared to 0.6 to 0.7 ha of their counterpart (Leavens and Anderson, 2011). This situation is prevalent even though women are engaged more with agriculture as an economic activity compared to men. Generally, 81% of women compared to 73% of men are engaged in agricultural activities. Women's involvement in agriculture in Tanzania is high when compared to the rest of Africa where 55% are in agriculture (FAO, 2010; IFAD and ILO, 2010).

**2.7 Theoretical Framework**

Progressive social theory suggests that the barriers and root causes of poverty include; capability deprivation, powerlessness and unequal access to resource and opportunities. Chubb and Moe (1996), point out that the system flaws associated with poverty relate to groups of people being given a social stigma because of gender or other groupings leading

them to have limited opportunities regardless of personal capabilities. Thus, no treatment of poverty (in its totality) can be completed without acknowledging that groups against which discrimination is practiced have limited opportunities regardless of legal protections (Quigley, 2003).

### 2.8 Conceptual Framework

The conceptual framework (Fig.1) for this study is derived from the 1996 concept of progressive social theory. The theory entails the recognition of individual ownership of resources regardless of their social-cultural grouping. The conceptual framework assumes that, the land tenure system which is the independent variable in this study has a direct influence on the household's income (dependent variable). Land tenure system gives one authority over such resource which in turn provides rights of growing both seasonal and perennial crops as well as livestock keeping. The surplus obtained from the production can be sold hence generate household's income. In addition, land that is owned can serve as collateral for credit or as a saleable asset during a crisis. According to IFAD (2008), tenure security especially land titles can empower women to assert themselves better with agencies that provide inputs and extension services). Land (whether owned or controlled by women) also increases the probability of women finding supplementary wage employment. Land also serves as an important asset base for rural non-farm enterprises as it offers a wedge for the poor to mobilize their own power and chart their development destiny. However, background variables which are age in years, marital status, education level, occupation, family size, market distance, extension services, farm size, modes of land acquisition and farm distance have direct influence on both independent and dependent variables.

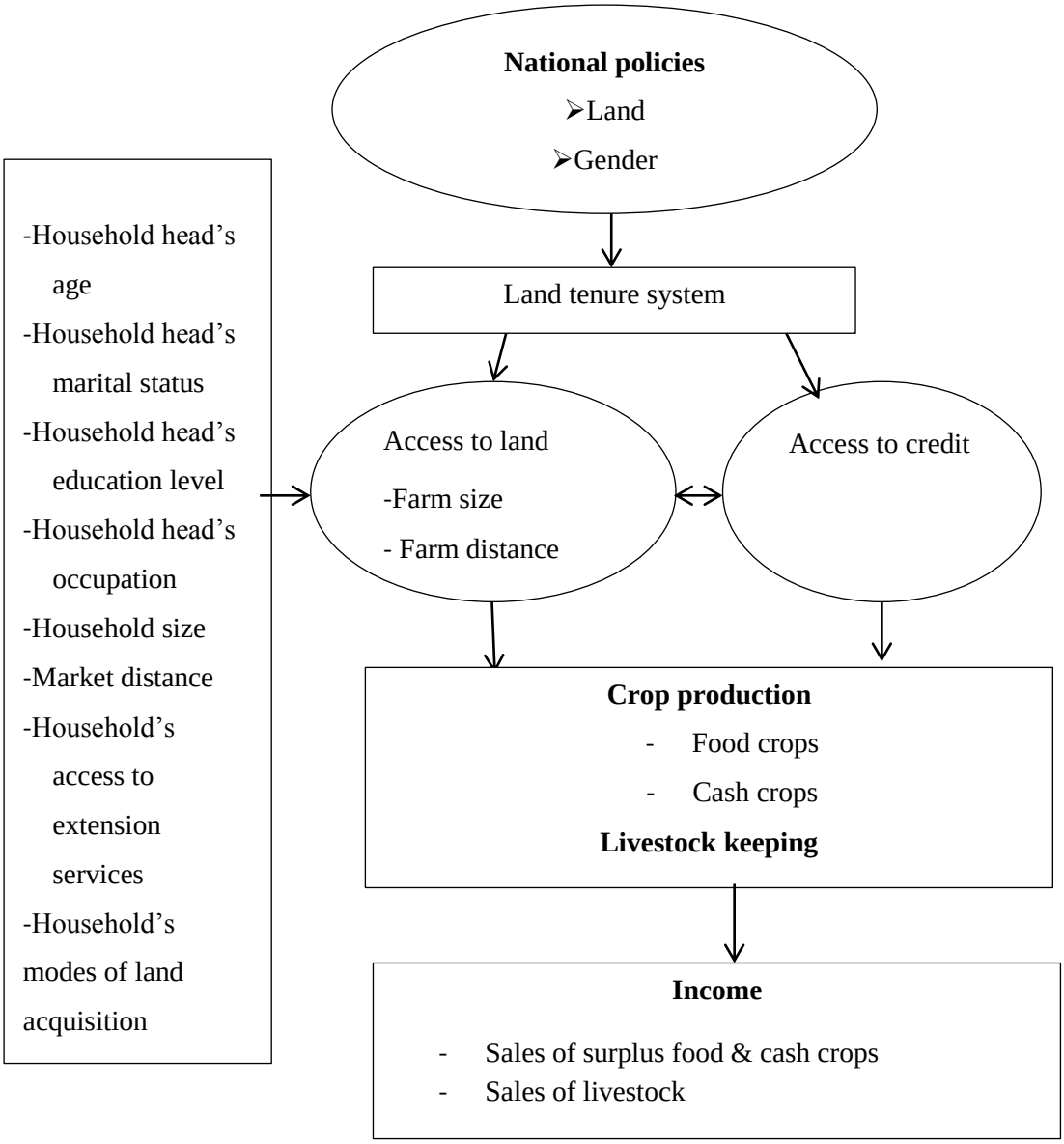


**Figure 1: Conceptual framework for land tenure system and income poverty reduction**

# CHAPTER THREE

## 3.0 RESEARCH METHODOLOGY

### 3.1 Description of the Study Area

Morogoro District is located in the North-eastern part of Morogoro Region. The area is boarded by Lindi and Coast Regions to the East, Ulanga and Kilombero Districts to the South and Mvomero District to the West and North (Fig. 2). Morogoro District where the study was conducted is one of the seven local authorities of Morogoro Region. The others are Gairo, Mvomero, Kilombero, Kilosa, Ulanga and Morogoro Municipality. Morogoro District has a land area of 11 711 $km^2$ and a total population of 286 248 according to the 2012 population census (URT, 2012). The District is inhabited by different ethnic groups these include; Waluguru, Wakutu, Wazigua, Wanguu and Wakwere. All the above are mainly of the Bantu origin and mostly follow matrilineal system. Administratively; Morogoro District has 6 Divisions, 29 Wards, 132 Villages and 657 Hamlets. According to URT (2008), the District is estimated to have 88 453 Agricultural households. Morogoro District was chosen mainly due to economic development opportunities, agricultural endowment among others. Secondly, the choice was based on the fact that most of the residents come from matrilineal communities which triggered the study as far as FHHs are concerned.

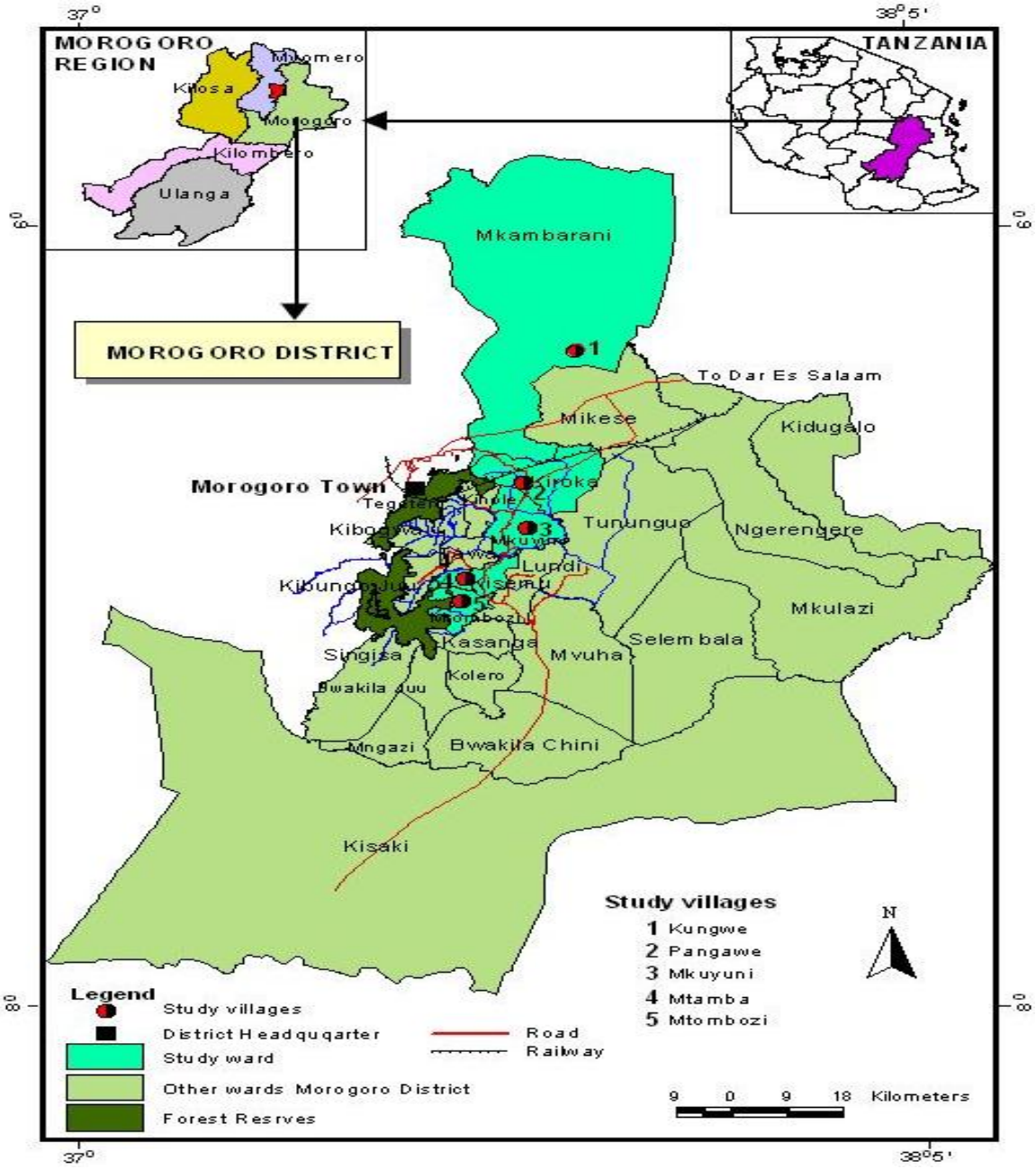


**Figure 2**: **Map of Morogoro District showing the Study areas - Source; MDC (2014).**

### 3.2 Research Design

The research was carried out using a cross-sectional design where data was collected at a single point in time without repetition. The design was chosen due to the fact that it is cost-effective, less time consuming and much information can be obtained in a relatively short time (Malthews and Ross, 2010:121). Additionally, the design was suitable for the study as data collected can be used for the statistical description and determination of

relationship between variables including land tenure system and income poverty status which were the focus of the study.

### 3.3 Sample Size and Sampling Procedure

Choosing the sample size was one of the greatest challenges in this research. The study was seeking to establish the relationship between income poverty status among FHHs and the existing land tenure systems in the study area. There was no register with specific number of FHHs at the District, division, ward and most villages. Such a register was only available in three villages Mtamba (Kisemu ward), Mkuyuni (Mkuyuni ward) and Pangawe (Mkambarani ward).

FHHs were the sampling frame for this study therefore; a multi-stage sampling technique was used to select an optimum sample size for analysis. According to Seawright and Gerring (2008) multi-stage sampling is the best method to use for an unknown population. Consideration was made on the level of precision; the 95%, the level of confidence 0.5%, or risk was chosen to provide the degree of variability in the attributes to be measured in order to come up with the appropriate sample size (Israel, 2012). In addition, Sudman (1976) as cited by Watson (2001), suggests that the minimum number of respondents should be greater than 100 if the population size is very big, where getting 100 is a hectic task, then 30 to 100 respondents may be chosen depending on the population size. Kothari (2004) suggests a sample size of 30 respondents as the minimum for a study in which statistical data analysis is to be done. Based on all this information a total of 168 respondents were involved in this study. Stratification was applied to get 5 villages from the selected 5 wards, and then simple random sampling was employed to get 68 *de_jure* FHHs and 52 *de_facto* FHHs. Furthermore, 8 respondents from each village were involved in FGDs making a total of 40 participants from both *de_jure* FHHs and *de_facto* FHHs. In

addition to the FGDs, the study also involved 8 key informants by virtue of their position (Ward Extension officer, Ward Executive Officers (WEOs), Village Executive Officers (VEOs) and Village officers). Therefore, the study involved a total of 168 individuals.

**Table 1: Sample selection and distribution of respondents**

| Division | Wards | Villages | Number of households (N) | Households selected (n=160) |
|---|---|---|---|---|
| | Mtombozi | Mtombozi | unknown | 32 |
| Matombo | Kisemu | Mtamba | 225 | 32 |
| | Mkuyuni | Mkuyuni | 445 | 32 |
| Mkuyuni | Kiroka | Kungwe | 202 | 32 |
| Mikese | Mkambarani | Pangawe | unknown | 32 |
| **Total** | | | | **160** |

### 3.4 Types of Data Collected and Source

The study used both primary and secondary data in the endeavour to determine the influence of women's land access and control in a matrilineal society on income poverty. Primary data are the data observed or collected directly from first-hand experience (Bhattacherjee, 2012). In this study primary data on social economic characteristics of respondents, land accessibility, production and consumption were collected using a questionnaire (Appendix 2). The economic status and income poverty status of the households were also observed and collected using the same tool. The questionnaire was also used to collect information that would enable determination of the relationship between land tenure system and the income poverty status among FHHs. The questionnaire was also used to collect information on the respondent's perceptions on the existing land tenure system and income status (Appendix 4). To complement information gathered by the questionnaire, key informant interviews were conducted whereby WEOs, WARD Extension officers, WLOs, VEOs and village officers were interviewed to give

highlights and verifications on unfamiliar/misunderstood scenarios guided by a checklist (Appendix 3). Furthermore, 5 FGDs were conducted one in each of the 5 villages involved in the study; each FGD involved 8 participants guided by a checklist (Appendix 5).

### 3.5 Methods of Data Collection and Tools Used

The current study used a mixed method approach whereby both qualitative and quantitative methods were employed in this study. According to Matthews and Ross (2010), a mixed method approach can best be thought of as a combination of qualitative and quantitative methods in a way that is best for a research. Quantitative data are the data whose items are described in terms of quantity and in which a range of numerical values are used without implying that a particular numerical value refers to a particular distinct category (Bhattacherjee, 2012). The following quantitative data were involved in the study; respondent's age (years), sex of respondent, respondent's education level, family size, farm size/total acreage one owns, farm distance, the amount of income obtained from agriculture, the amount of income spent on food per day and total annual income of the household.

Qualitative data on the other hand are the data which describe items in terms of some quality feelings, and opinion (Matthews and Ross, 2010). In this study attitudinal statements were constructed whereby respondents gave their views by picking up one among the five given scales to indicate their extent of agreement about how well each of the statements is an accurate description of one's perception of FHHs on the existing land tenure system (Appendix 4).

### 3.6 Data Processing and Analysis

Collected data were coded, verified, assembled, summarized and cleaned before the analysis was done. Both descriptive and inferential statistics were determined using the

Statistical Package for Social Sciences (SPSS Version 16) computer software. For this study descriptive analysis as well as statistics, multiple linear regression (MLR) and content analyses were used to address the specific objectives. The descriptive analysis involved computation of frequencies, percentages, means, standard deviation and total perception scores for objectives number one and two. For objective number three a MLR model was used to determine the relationship between land tenure system and income poverty status among FHHs.

### 3.6.1 Perception of FHHs on the existing land tenure system

The study used a five point Likert scale to determine perception of the FHHs on the existing land tenure system and income poverty status as stated in objective two. A Likert scale is a measure of attitudes designed to allow respondents to rate how strongly they agree or disagree with carefully constructed statements, ranging from very positive to very negative attitudes toward some object (Archambault and Hall, 2009). In addition, Trochim (2006) points out that a "Likert Scale" is actually the sum of responses to several statements that the respondent is asked to evaluate. A format of typical five levels Likert was used in which the respondent was asked whether she; strongly disagreed, disagreed, neither agreed nor disagreed (undecided), agreed or strongly agreed with the particular statements. Statements that were used to construct the Likert Scale were based on the assumption that (i) land is a cultural identity so it is a males 'property so females have minimal chance to own land, (ii) land ownership gives one power to use the same in different ways. These assumptions were among the twelve (12) statements developed to assess the respondents' attitude in relation to different aspects of land tenure system.

Based on the above description, a numerical score was assigned to each of the respondent's answer indicating their levels of agreement (disagreed, neutral or agreed)

towards land ownership. The score for each statement was recorded and computed in order to get total scores. The proportion of respondents falling under each of the five categories (scoring 1 to 5) was then determined. Finally, the 5 categories were recategorised into three levels that is; disagree, undecided and agree represented by scores of 1, 2 and 3 respectively.

In addition to the above, a value of 1 was given to wrong responses where the attitudinal statement was positive. For the responses indicating neutrality a value of 2 was awarded and for all responses answered correctly regardless of their positivity or negativity the statement was given the value of 3. Three levels of attitudes (disagree, undecided and agree) were then established. Computations of the scores were done by considering the 12 statements 1 x 12 =12 for disagreeable attitude which was then denoted by 12 to 23 all scores < neutral scores. Indifferent/neutral attitude (the average between agreeable scores and disagreeable scores) which was denoted by 24 and agreeable attitudes 3 x 12 = 36, this was then denoted by all scores > neutral scores that is 25 and above.

### 3.6.2 The Multiple Linear Regression (MLR) model

According to Gupta (1990) multiple regression analysis represents a logical extension of two variables regression analysis. Instead of a single independent variable, two or more independent variables are used to estimate the values of a dependent variable. In addition, Pallant (2011) points out that, a multiple linear regression is a technique that can be used to explore the relationship between one continuous dependent variable and a number of continuous dependent variables or predictors. The model is ideal for the investigation of more complex real life.

To address objective three regarding the relationship between land tenure system and income poverty status among FHHs, data was analysed using standard multiple linear

regression model. The model was chosen because of the fact that; it allows all the independent variables to be entered at once (Pallant, 2011). In addition, the standard MLR model tells the extent to which each of the independent variables explain the variance of the dependent variable over and above the other independent variables included in the set. Before running the regression model, collinearity/multicollinearity diagnostics test was done in order to detect whether there was a correlation among the independent ($X_i$) variables. According to Pallant (2011), the multicollinearity problem is described by the presence of linear or near linear relationship among explanatory variables. Testing of the model on multicollinearity was done by using the tolerance and Variance Inflation Factor (VIF) test which builds in the regression of each independent variable. According to Pallant (2011) a tolerance value less than 0.10 and a VIF above 10 indicates multicollinearity. Results in Appendix 7 show that there were no variables that had a tolerance value of <0.10 neither VIF <10. This observation confirms that there was no violation of the multicollinearity assumption by the study.

In addition, there were no major deviations from normality since the normal p-p plot shows that points lied in a reasonably straight diagonal line from bottom left to top right and the residual was roughly rectangular distributed with most of the scores concentrated in the centre. According to Pallant (2011), the number of independent variables that are required in the multiple regression analysis is calculated by the following formula N > 50 + 8m (where m = number of independent variables). Therefore, in this study, according to the number of household included in the analysis, nine independent variables were required for the analysis. The factors used as predictors and which were included in the model were, marital status of the household head, age of the household head, household size, occupation of the household head, farm size measured by the total acreage, availability of extension services, farm distance, and market accessibility. Furthermore,

three predictors (access to land, modes of acquiring and farm size) were computed to get total scores which were used as the main land tenure parameters. The assumption behind was that women had full access and control over land due to the fact that in matrilineal ethnic groups (where property traces through the mother's line) women are more likely to acquire land by inheritance. The total scores were then were used as a basic criterion to infer the hypothesis set together with general results of the regression analysis.

Multiple linear regression model was run to quantify the combined factors contributing to land ownership as independent variables as well as to gauge the role of each variable in explaining the variances in the dependent variable (total household annual income). The above rests on the fact that the women involved in this study are members of a matriarchal community, therefore, they can own land which they could put into different uses hence reduce income poverty.

The linear regression model used is as shown below:

$$Y = \beta_0 + \beta_{age}X_{age} + \beta_{m.st}X_{m.st} + \beta_{f.size}X_{f.size} + \beta_{occp}X_{occp} + \beta_{t.acr}X_{t.acr} + \beta_{fr.dis}X_{fr.dis} + \beta_{Eserv}X_{Eserv} + \beta_{mkt\,d}X_{mkt.d} + \beta_{T.Lten}X_{T.Lten} + \varepsilon$$

Whereby, $Y$ stands for income level measured in TAS,

$\beta_0, \beta_{age}, \beta_{m.st}, \beta_{f.size}, \beta_{occp}, \beta_{t.acr}, \beta_{fr.dis}, \beta_{Eserv}, \beta_{mkt\,d}$ and $\beta_{T.Lten}$ stands for constant coefficients for each of the corresponding influencing variables and $\varepsilon$ stands for the error term. The variables $X_{age}, X_{m.st}, X_{f.size}, X_{occp}, X_{t.acr}, X_{fr.dis}, X_{Eserv}, X_{mkt.d}$ and $X_{T.Lten}$ stands for influencing variables which are age measured by years, occupation(farming 1 otherwise 2), family size measured by actual number of household members present in the said household, marital status (married = 0, unmarried =1), farm size measured by the total acreage, availability of extension services (0 for No and 1 for Yes), farm distance, and

market accessibility measured in kilometres as well as land tenure parameters measured by total scores of three predictors (access to land, modes of acquiring and farm size) as stated earlier (Bhattacherjee, 2012).

### 3.7 Reliability and Validity of the Measurements

Reliability and validity of any study enables acceptance of the same findings. According to Bhattacherjee (2012), reliability is the degree to which the measure of construct is consistent or dependable meanwhile validity refers to the extent to which a measure adequately represents the underlying construct that it is supposed to measure. On the other hand Fisher *et al.* (1998) suggests that if a measurement is valid it is also reliable though reliability measurement may or may not be valid. A trade-off between validity and reliability was somehow evident in this study where validity was seen to have priority since adherence to research ethics was well followed. To ensure the instrument (questionnaires) draw appropriate, meaningful and useful data the instrument was validated through discussions with the supervisor, peers and other experts in the DSI, Sokoine University of Agriculture. Their comments were then used to improve the instrument accordingly.

The questionnaires for pre-testing were administered to 30 FHHs picked from Kimambila village which shares the same characteristics with most of the villages in the study area. Kimambila village is found in Mvomero District whereby in the past this used to be a part of Morogoro District hence the village was not involved in the actual data collection. After pre-testing, the questionnaire was modified to incorporate what was seen as important and dropping questions that were irrelevant before it was actually administered to the respondents in Morogoro District. Though the study was conducted in Morogoro District a

matriarchal community targeting FHHs the study results might be useful for inference in other rural settings in Tanzania and Sub-Sahara Africa (SSA) at large.

### 3.8 Study Limitations

During execution of the study several problems were encountered; these include the fact that some of the ward and village offices did not have registers specifically showing the number of FHHs. For instance in Mtombozi and Mkambarani wards there were no such registers. This limitation was dealt with by selecting highly populated villages in the said wards with the assumption that a good number of FHHs will be found. The assumption was well fulfilled.

Secondly, though households had different sources of income no records were available to give details of each income source. It was also difficult to determine money spent on food by the households. Nevertheless, the researcher assisted them by suggesting to them various ways of separating the incomes obtained from different sources. For example respondents were asked about types of crops grown with respective sizes of the farms, the amount of food stuffs taken in a day and thereafter estimations were done by the researcher considering market prices in the study area.

Lastly, respondents were reluctant to air their views due to unfulfilled promises made by previous researchers. Despite the creation of a good rapport with them, more clarifications had to be made in relation to the main purpose for the research. Respondents were informed that the current study was for academic reasons, and that it was being conducted for the partial fulfilment for the award of MARD degree (Appendix 1). At the end with help of the VEOs and the village offices the study was conducted after replacing those respondents who were reluctant or not willing to provide information.

# CHAPTER FOUR

## 4.0 RESULTS AND DISCUSSION

### 4.1 Respondents Socio-demographic Characteristics and Land Tenure

Respondent's socio-demographic characteristics can influence ones material acquisition and general well-being. Therefore, in assessing the relationship between land tenure system and income poverty reduction among female headed households (FHHs) based on respondent's socio-demographic characteristics is important. In this study, respondents' socio-demographics focus on respondent's marital status, age, household's size, and level of education.

#### 4.1.1 Marital status

In this study, consideration of the marital status was deemed important. Since the study area is a matrilineal community practicing a matriarchal system in which daughters are given rights to property ownership. It was important to determine whether this assumption is true. However, findings from the study show that, things are quite different nowadays. Although the study observed that marital status matters a lot on land ownership as far as *de_facto* and *de_jure* FHHs are concerned. The *de_facto* FHHs have weaker land ownership rights through inheritance compared to the *de_jure* FHHs. Fig.2 show *de_jure* FHHs own higher proportion (57%) of land compared to *de_facto* FHHs (43%).

According to Amaza *et al*. (2009), the significance of marital status on agricultural production can be explained in terms of the supply of agricultural family labour. Moreover, Ukoha (2011) suggested the same in relation to various African societies as there are cases where women's land ownership is complicated by the gender ideology that women should not own property, particularly land and housing. The issue of marital status

is important in the sense that, in the African context married women are less involved in issues pertaining to land ownership than men (Quansah, 2009). The argument behind is that property ownership should be under the head of the households in most cases men (Ruheza *et al.*, 2012).

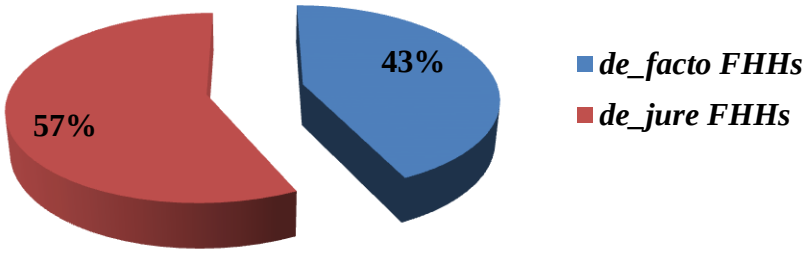


**Figure 3: Type of household headship and land ownership**

### 4.1.2 Household head‘s age

Sex and age are among the variables that affect decision making, or rather, that allow one to establish individual differences (Lizarraga, 2007). Age has been found to determine how active and productive the head of a household would be. Observations from the study show that the respondents were evenly distributed in relation to their age groups (Table 2). The respondents were aged between 18 and 60 years, however, those aged between 46 and 60 represented about one third (33%)of the sample were relatively more than the other age groups (Table 2). This implies that the majority of the respondents can actively engage in different activities farming inclusive. The results to a larger extent correspond with those of Tanzania’s 2012 national population census whereby, Morogoro District was found to comprise nearly 50% of the working group aged between 25 - 44 years. The study only involved one respondent aged between 18 and 25, in many cases this is not the age of one experiencing divorce, separation or widowhood except for the pre-maturity marriages.

**Table 2: Age and education level of the respondents (n=120)**

| Variable | Category | Frequency | Percentage |
|---|---|---|---|
| Age in class category | | | |
| | 18 – 25 | 1 | 2 |
| | 26 – 35 | 20 | 16 |
| | 36 – 45 | 33 | 27 |
| | 46 – 60 | 40 | 33 |
| | > 60 | 26 | 22 |
| Respondent's level of education | None | 38 | 32 |
| | Primary education | 72 | 60 |
| | Secondary education | 10 | 8 |

### 4.1.3 Respondents level of education

In human economic development, education has a role to play not only for individual's opportunities in a society, but also for productive capacity and well-being of a household. It was therefore important for this study to collect information on the respondent's educational level. Observations from the study show that most (60%) the respondents had primary level of education (Table 2). This observation seems to suggest that there is a higher likelihood of households to effectively use their land for different activities based on the basic knowledge they have hence, increasing their income. According to SOFA Team (2011), primary education seems to be universal education as a human capital available in the household which is usually measured by the education level of the head of the household and it is strongly correlated with income, agricultural production and other measures of welfare.

According to Mukwenda (2005), education accounts for 50% variation in agriculture output in Tanzania. Thus, the high education level of interviewed respondents can also be exploited to boost agricultural productivity by more than 50%. In addition, education is also associated with the production of higher quality crops and greater participation in

non-farm activities. According to Aikael (2010), education level plays a significant role in understanding land tenure systems and their effect on income poverty as people with high literacy level tend to optimize the means of land ownership. Moreover, household heads with relatively higher education are more likely to have skills and opportunities to successfully diversify into other, more lucrative, income-generating activities.

### 4.1.4 Surveyed household's family size

A household is represented by a person or a group of persons who reside in the same residence whether related or not and sharing the basic necessities like food and shelter. In this study household size was determined by considering all members who were present in each household including parents, children and other dependants. According to URT (2012) the average household size for Morogoro District is 4.4 people. The results (Table 3) show a relatively higher proportion of households 52% with household size ranging between 3 and 5 people. According to Ngeleza *et al.* (2011), food crops production is labour intensive with labour requirement of 531 man–hours per hectare. This observation implies that, with an average of 3-5 members (Table 3) family labour supply would not be enough unless households rely heavily on hired labour or volunteering services from other farmers. This observation may be attributed by the fact that FHHs have high dependency ratio especially young grandchildren, who require much spending for their daily sustenance rather than providing farm labour.

**Table 3: Household size and respondent's main occupation (n=120)**

| Variable | Category | Frequency | Percentage |
|---|---|---|---|
| Household size categories | 1-2 | 50 | 41 |
| | 3-5 | 62 | 52 |
| | 6-10 | 8 | 7 |
| Respondent's main occupation | Farming | 49 | 41 |
| | Farming & Business | 71 | 59 |

### 4.1.5 Respondents main occupation

As regards to the respondent's main occupation, results in Table 3 show more than half (59%) of the households were involved in farming and business. According to the ILO (2011), 70- 80% of all subsistence farming in Africa is carried out by women. Based on URT (2008), 50.2% women in Morogoro District are engaged in agriculture. However, in addition to farming women also engage in other income generating activities in order to shoulder the burden of economic shocks especially when the harvest is not good due to recent variations of weather conditions (IFC, 2007). Besides, one is able to conduct agricultural activities once he or she has access to land as it has been noted earlier that land tenure gives one rights of land usage.

## 4.2 Households Income Poverty Status

The current study used a number of indicators to determine income poverty levels among FHHs in Morogoro District. Household assets, materials used to construct the house and the number of meals taken per day by the households was the proxy of income poverty used in this study (URT, 2008). Respondents were asked regarding household asset ownership (house, farm equipment), types of materials used to build the house (walls materials, roofing and flooring materials) and the amount of money spent on food.

### 4.2.1Type of assets owned by households

The level of asset ownership in a household is an indication of its endowment and provides a good measure of a household resilience in times of food crisis, resulting from famine, crop failures, or natural disasters. According to Amaza *et al. (2*006), a household's assets wealth is important to lessen the financial burden of the same during events that stress household budgets. Results as presented in Table 4 show the number and value of assets owned by the respondents. The results displayed that over two third (68%) of the respondents own houses with a good proportion to *de_jure* FHHs who own more than

three quarter (81%) compared to *de_facto* FHHs (50%). In addition, chi-square test results show that there was a statistically significant association between house ownership and marital status at $\chi 2 = 15.250$ and $p<0.05$; $p=0.002$. This implies that marital status of the respondents had influence on the type of house owned. Observations further show that 74% of the respondents from FHHs in Morogoro District, constructed their houses using bricks for both the *de_jure* and *de_facto* FHHs.

**Table 4: Household's assets ownership (n=120)**

| **Variable** | **Category** | ***De_facto* FHHs (n=52)** | ***De_jure* FHHs (n=68)** | **All (n=120)** |
|---|---|---|---|---|
| Household ownership | Owned | 26(50) | 55(81) | 81(68) |
| | Rented | 26(50) | 13(19) | 39(32) |
| Materials used to build the walls | Mud/soil | 12(23) | 19(28) | 31(26) |
| | Bricks | 40(77) | 49(72) | 89(74) |
| Roofing materials | Dry grass/cow dung | 44(85) | 61(90) | 105(87) |
| | Iron sheets | 8(15) | 7(10) | 15(13) |
| Flooring materials | Soil/cow dung | 29(56) | 49(72) | 78(65) |
| | Cement | 23(44) | 19(28) | 42(35) |
| Farm implements | Hand hoes | 52(100) | 68(100) | 120(100) |
| | Plough | 0(0) | 0(0) | 0(0) |
| | Tractor | 0(0) | 0(0) | 0(0) |
| Other assets | Sewing machine | 10(8) | 16(13) | 26(22) |
| | Cell phone | 40(33) | 56(47) | 96(80) |
| | Radio and TVs | 42(35) | 48(40) | 90(75) |

*NB*: *Numbers in brackets indicate percentage*
Pearson Chi-square ($\chi 2$) Test value =15.250a, Df=3 P=0.002

As regards the type of roofing, more than three quarters (86%) of the respondents used dry grass or mud as the roofing materials. Table 4 also shows that, about two thirds (65%) of the respondents used soil and cow-dung for flooring. These findings suggest that, majority of the respondents in the study area had low incomes. As it has been depicted earlier, roofing and flooring materials are among the non-income poverty indicators, whereby

Morogoro District being the least developed District in the Region with poor roofing and flooring materials accounts to 6.7% compared to the remaining Districts in the Region (URT, 2008).

In relation to other households' assets, all (100%) of the households own hand hoes none of them owned a plough or tractor (Table 4). Having a high proportion of households owning hand hoes indicates that, the majority of farming households use hand hoes in most of their farming activities. These results are in line with the results of studies by URT (2010a) and Masawala (2010) that about 70% of Tanzania's cultivation is done by the hand hoe. Again 80% of the households own cell phones meanwhile 75% own radios and televisions (TVs). The minimum and maximum number of other assets owned was one and ten for hand hoes, one-three for cell phones and one-two for radios and TVs. The minimum and maximum value of assets owned by households was 3 500 and 250 000 TAS respectively, excluding land plots and house(s) one owned.

Some previous studies show that there is a great relationship between asset ownership and vulnerability to shocks and contingencies. For example, Shariff and Khor (2008) have reported that, households with low number and diversity of productive assets may be more vulnerable to external shocks.

### 4.2.2 Households' food expenditure status

The amount of money spent on food consumption per day was another factor used as a proxy for income poverty status among FHHs in Morogoro District. According to the HBS (2009), one dollar (USD) per day in real terms (using purchasing power parity exchange rate) has been used to facilitate comparison with other countries. Results presented in Fig 4 indicate that, the majority (79%) of the respondents take two meals a day (usually not

balanced diet). Furthermore, none of the *de_jure* FHHs took either one or four meals/day unlike their counterpart (the *de_facto* FHHs). Perhaps this is attributed to the fact that the *de_facto* FHHs are more likely to receive remittances from their husbands compared to *de_jure* FHHs.

These findings are similar with those of the regional agricultural census report (URT, 2008) which portrayed that an estimated of 69.1% households in Morogoro Region reported having food insufficiency for some period of the year. According to FAO (2008), most of the world's hungry live in rural areas, and depend on the consumption and sale of natural products for both their income and food. Based on the results, one may conclude that FHHs have low income status however; *de_jure* FHHs experience lower income status compared to *de_facto* FHHs.

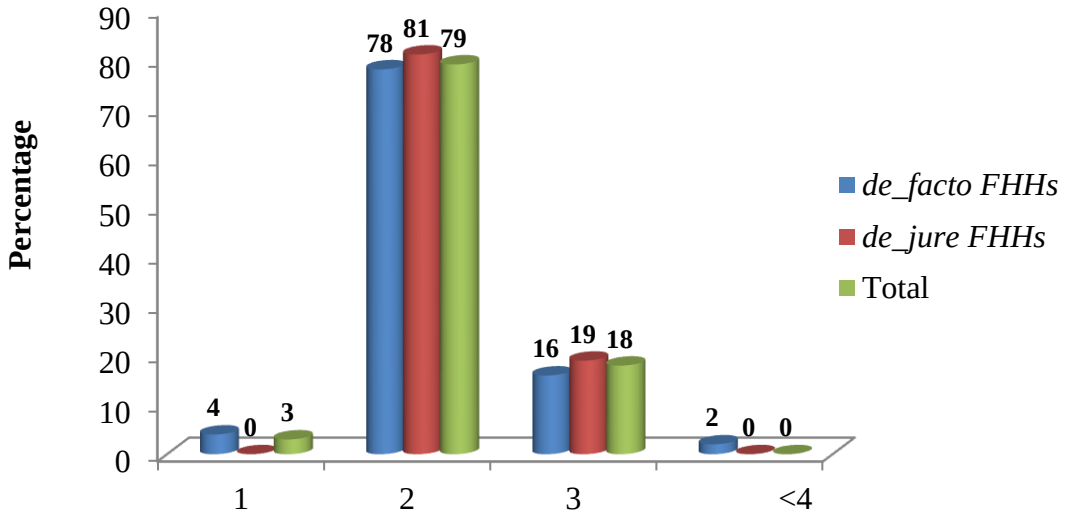


**Figure 4: Number of meals taken per day by surveyed households (n=120)**

### 4.3 Existing Land Tenure System in Morogoro District

This section addresses the first objective of the study which was to examine land tenure system existing in the study area. The respondents were asked about land ownership, size of the land owned, the modes used to acquire the land, whether respondents bought and whether they possess a title deed for the owned land.

#### 4.3.1 Respondent's land ownership

According to URT (2010a), land is a major resource for agricultural production whereby farming is women's principal duty and selling food and cash crops seems to be the most important source of their income. Results in Table 5 show a higher proportion (96%) of the households located in the study area own land. This observation was expected as it was earlier hypothesised that being a matrilineal society, women have stronger rights of land ownership since property is delineated through the mother's line. The observation confirms that respondents in the study area engage in farming activity as it is the case in many other parts of Tanzania, more than two-thirds of the rural inhabitants depend on crop production and livestock rearing as their main source of income.

**Table 5: Land ownership (n=120)**

| **Characteristic** | **Categories** | ***De_facto* FHHs (n=52)** | | ***De_jure* FHHs (n=68)** | | **All (n=120)** | |
|---|---|---|---|---|---|---|---|
| Land ownership | No | 4 | (8) | 1 | (1) | 5 | (4) |
| | Yes | 48 | (92) | 67 | (99) | 115 | (96) |
| Size of land owned (ha) | <0.4 | 6 | (13) | 1 | (2) | 7 | (6) |
| | 0.4-0.8 | 35 | (73) | 41 | (61) | 76 | (67) |
| | 1.2-2 | 5 | (10) | 16 | (24) | 21 | (18) |
| | 2.4–4 | 1 | (2) | 5 | (7) | 6 | (5) |
| | >4 | 1 | (2) | 4 | (6) | 5 | (4) |
| Modes of acquiring land | Purchased | 9 | (8) | 15 | (13) | 24 | (21) |
| | Inherited | 39 | (34) | 52 | (45) | 91 | (79) |

*NB: Number in brackets indicate percentage, Under size of land owned and modes of acquiring land only those owning land have been considered for the de_facto n=48 and the de_jure n=67*

### 4.3.2 Household's land size

In relation to the land size Table 5 shows that a high proportion (67%) of the surveyed households had land sizes ranging from 0.4 to 0.8 hectares (ha). It has been reported that Tanzania is considered a land abundant country since it has an average land area of 2.3 ha per head (WD, 2010). This means FHHs own land that is below the national average. These findings show that the amount of land owned by FHHs in Morogoro District can be a cause of the surveyed households engaging in subsistence farming meaning that they produce on a small scale level. Nonetheless observation from the study shows that, there was a slight difference in the size of land owned by *de_facto* and *de_jure* FHHs. In order to test and see if the difference was significant or not, an independent samples t-test was done. The t-test results (Table 6) show that there was a significant difference in mean size of land owned by *de_facto* FHHs (M = 2.27, SD 0.618) and *de_jure* FHHs (M = 2.58, SD 0.873; t (109.661) = -2.238, p = 0.027, two tailed) the magnitude of the differences in the means = - 0.315, 32% CI: - 0.595 to - 0.036) was small (eta squared = 0.497, 4.9%). Pallant (2011) suggest that, if eta squared < 0.05 it shows small magnitude effect of the mean differences between the compared groups. Despite inadequate and faulty data, available evidence FAO (2011), suggests that women are less likely to own and control land and when they do, the size and value of their holdings are lower than those of men. Although observations from the study show that, the existing customary land laws are in favour of women due to the study area being matrilineal. However, the impact of the law was felt especially in matrilineal communities where land came to be vested in men as household heads instead of being controlled by women or maternal uncles Carpano (2010). This is confirmed by micro-level studies of Mitra (2008) and Rao (2010) who reported that, the status and class disparities in asset ownership prevail in most African countries.

**Table 6: Independent t-test results showing land size between *de_facto* and *de_jure* FHHs (n=112)**

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | 95% Confidence Interval of the Difference | |
|---|---|---|---|---|---|---|---|---|---|---|
| | F | Sig. | t | Df | Sig. (2-tailed) | n | mean | Mean Difference | Std. | Lower | Upper |
| *De_facto* FHHs | | | | | | 45 | 2.27 | | 0.618 | | |
| *De_jure* FHHs | 9.71 | 0.002 | -2.24 | 109.66 | 0.027 | 67 | 2.58 | -0.32 | 0.87 | -0.59 | -0.04 |

***NOTE:*** *Eta squared* = $t2/t^2$+ (N1+N2-2) Pallant (2011).

### 4.3.3 Modes of land acquisition

Results presented in Table 5 show that, most (79%) of the respondents acquired land through inheritance. This observation was expected as it was hypothesised earlier that the study area is a matrilineal society, women have stronger rights as property is inherited through the mother's line. This result concurs with Mkude (2003) and Isinkia (2010) who reported that, most of the farmers in rural Tanzania own land through inheritance whereby, in matrilineal ethnic groups women are more likely to acquire land through inheritance. Observations further show that, the *de_facto* FHHs acquired a good proportion (34%) of land compared to the *de_jure* FHHs (45%). In both cases below half of households owned land, however, as presented in section 4.3.2 the amount of land owned or inherited is small such that inheritance down the lineage could lead to land fragmentation. Generally, when a person with many children is deceased, his/her property including land is divided among the children, since land size is fixed, and each child inherits a small part of that land leads to land becoming a limiting factor in terms of socio-economic production. Furthermore, during the FGDs it was revealed that in most cases women find themselves left with no land to inherit as shown by the quotes below;

> *In our locality land is offered through customary system whereby one inherits from his or her parents and grandparents sometimes. Land is supposed to be equally inherited by both men and women, in the past things were a bit easier when the matrilineal system was fully operative. Nowadays, daughters and sons, men and women can inherit the clan land based on its availability. But you know what! Sons are given great chance compared to daughters (the reason being that daughters always loose the clan name while sons add family members to the clan) (FGD participants Mkuyuni village (Mkuyuni ward), 10 December, 2013).*

> *Sometimes the village government allocates land to landless people mostly to the elderly, popularly referred to as the 'wande wa kijiji', of course both men and women have equal chance of being given land but for 'us' (FHH especially separated and divorced women) no one stands for 'us' unless we find someone to stand on behalf (FGD participant, Kungwe village (Kiroka ward), 6 December, 2013).*

To emphasise on the above one village leader in Mtombozi village said;

> *Both customary land system and the village land act No.5 of 1999 are being practiced in Morogoro District. In addition, both respect clan land arrangements provided that, land is utilised according to agreed boundaries among clans. In the past, daughters were given first priority in relation to land inheritance under the supervision of their uncles. This was just a matrilineal moral but, slowly the community has started to change and gives equal rights to both daughters and sons under supervision of any (mother, father, grandparents or uncles and aunts). However, some clans discriminate women others distribute land equally regardless of one's sex. Hence, creating awareness might be a great favour to our community especially women who in most cases have their rights denied (Key informant, Mtombozi village on 4 December, 2013).*

Apart from inheritance the study found out that, land purchase was another mode by which FHHs acquired land in Morogoro District. Results (Table 5) show that only a small proportion (21%) of households in the study area have bought land with the *de_jure* FHHs having bought relatively more land compared to the *de_facto* FHHs. This observation suggests that, the existing land tenure system is not in their favour since they find themselves with no land to inherit. This observation could be due to the fact that in most cases the *de_jure* FHHs are older and widowed as reported by Horres (2006). Among the reasons given for buying land was for establishing residential places, farming and serving as assets.

### 4.3.4 Title deed ownership by surveyed households

With regards to land title deed acquisition, results in Table 7 show that less than half (46%) of households had title deeds. This observation is not surprising at all, since the issue of formal proof on land ownership is very complicated. In the Tanzanian context, all the land is public whereby the President holds it in trust for all the citizens. The president delegates power of designation, adjudication and modification of the land tenure status to the commissioner for lands (URT, 1999b). Observations from the study show that customary right of occupancy is the mostly predominant land tenure system in the study area. Perhaps this has been perpetuated by the government's initiative to operationalize the Land Act to improve tenure security; encourage investment on land, and support development of a land markets through strategic plans for the implementation of the land Acts (SPILL) introduced in 2005. The activities of SPILL have included development of land-administration machinery to support land allocation and land-administration services, land demarcation, and issuance and registration of certificates of customary occupancy rights (URT, 2010). Although, the village land Act no. 5 of 1999 is in place, the later does not disapprove the former. However, observation from the FGDs showed that;

> *The presence of PBFP-MKURABITA seems to be of a big help to rural people whose life depends on agriculture. The problem of the strategy is not well known to the majority (FGD Participants from Pangawe village on 8th January, 2014*).

Moreover, when respondents were asked for the means of getting informal land title deeds, a number of ways were pointed out. These include, land being given by parents, acquired through purchase land, bequeathed by deceased husband and land given by the village government. Generally, 41% of the respondents obtained their land ownership proof via their parents.

**Table 7: Distribution of respondents by ownership of land title deeds (n=115)**

| **Response** | | ***De_facto* FHHs (n=48)** | ***De_jure* FHHs (n=67)** | **All (n=115)** |
|---|---|---|---|---|
| Title deed ownership. | No | 33 (69) | 29(43) | 62(54) |
| | Yes | 15 (31) | 38(57) | 53(46) |
| *Means of acquiring land title deed* | | | | |
| | Given by parents | 9 (60) | 13(34) | 22(42) |
| | Given by the seller | 4 (27) | 9(24) | 13(25) |
| | Left by my late husband | 0(0) | 8(21) | 8(15) |
| | Given by village Govt | 2(13) | 8(21) | 10(18) |

*NB: 5 respondents did not own land as indicated in Table 5, that is why n=115*
*Under Means of acquiring land title deed only those with title deed have been considered for the de_facto n=15 and the de_jure n=38.* Numbers in brackets indicate percentage

Results as presented in Table 7 show that only 18% of the respondents in the study area acquired their right of occupancy from the village government. This suggests that, the government support to the issues relating to formal land ownership. Inheritance and purchase are the common ways of acquiring land right of occupancy. According to URT (1999) villagers have customary right of occupancy for village land that they hold under customary law or have received as an allocation from the village council.

### 4.4 Perception of FHHs on the Existing Land Tenure System

Study results (Table 8) show that generally FHHs have a positive perception on the existing land tenure system. Observations from the study show that, just under half (47%) of the respondents had a positive perception on women land ownership, 40% average scores for disagreed arguments. Furthermore, results in Table 8 show a higher proportion (88%) of the women agreed with the statement that women should be given equal rights to own land like men. Thirteen percentages of the respondents were uncertain. In addition, almost all (93%) of the respondents agreed that women should participate in decision making about land ownership, this observation reflects awareness within FHHs on the

existing land tenure system. Perhaps, FHHs know that with land ownership they have great opportunities of using the land differently in order to improve their income status hence reducing income poverty among them. This in turn calls for enhancement of information-sharing to a range of stakeholders in a given community (village and community leaders, NGOs, CBOs, FBOs to mention a few) and policy makers so that amendments for the existing land tenure system can be done to allow economies of scale as far as land is concerned. This fact is supported by observations from the FGD meetings that;

> *By having land, one can venture into different entrepreneurial activities since his/her land can be used as collateral. Land is an asset which one can use as collateral especially the poor with no formal employment as many financial institutions accept land title deeds as collateral for loans (FGD participants, Mkuyuni village on 10 December, 2013).*

> *At least land makes one to be respected in our community like those who are employed (so it is a socio-cultural identity). With land ownership one can be secure from food insecurity regardless of changes in the weather conditions. Ownership of land gives one the right to plant anything without fear, perennial or seasonal crops. Moreover, one can also sell a plot during crisis such as sicknesses requiring a lot of money and for child's schooling (FGD participants Mtombozi village (in Matombo ward), 6 December, 2013).*

**Table 8: Perception of FHHs on existing land tenure system (n=120)**

| Statements | Disagree | Undecided | Agree |
|---|---|---|---|
| Women should be given equal right to own land | -(-) | 14(12) | 106(88) |
| Promotion of land tenure system where entitlement goes to male children | 102(84) | 9(8) | 9(8) |
| Women should participate in decision making about land ownership | 9(8) | -(-) | 111(93) |
| Widows, single or unmarried women should be considered in land inheritance | 10(8) | 7(6) | 103(86) |
| Types of crops to be grown on the family land is decided by male member of the household | 74(62) | 39(32) | 7(6) |
| The decision to use the inherited land by women should be made by themselves | 51(42) | 20(17) | 49(41) |
| Indirect control of land by women has effect to economic wellbeing of women | 70(58) | 10(8) | 40(33) |
| Discourage land tenure system in which entitlement goes to female children | 98(82) | 7(6) | 15(12) |
| Give hand to land tenure system in which male's relative are allowed to inherit land | 60(50) | 4(3) | 56(47) |
| Land title deed should be given to people with high income level | 77(64) | 12(10) | 31(26) |
| Land title deed increases the probability of finding supplementary wage employment | 4(3) | 40(33) | 76(63) |
| Women have minimal chance of being given land | 17(14) | 24(20) | 79(66) |
| Average score | 48(40) | 16(13) | 56(47) |

***Dash (-) =Not scored. NB: Numbers in brackets indicate percentage***

The study findings further revealed that, there was a slight difference on how decisions on how to use land are made. Regarding the statement the decision to use inherited land by women should be done by themselves" 42% of the respondents disagreed with the statement while 41% agreed and the rest 17% were uncertain. This observation suggests that in spite of being the head of the household (under any circumstance) women themselves still prefer having and respecting men in their households who can make

decision on their behalf. The same observation was revealed during the FGD held at Pangawe village (Mkambarani ward) where one of the respondents started that;

> *Even if we are doing well with our daily living, people still believe that we are incapable of making correct decisions just because we don't have men in our houses. For example, when you want to buy a piece of land you need to be accompanied by a man.*

In addition to the above, observations from the study concur with suggestions given out by Huisman and Smits (2009) that girl's decisions whether positive or negative are highly affected by the extent to which parental behaviour and preferences are associated with cultural norms and traditions. In this respect, it is tempting to conclude that societies have turned women into their own oppressors as they too tend to see men as better leaders than themselves. Generally, results as presented in Table 8 show that, FHHs have a positive perception on the existing land tenure system towards income poverty status. Observations from the FGDs meeting held in Mtombozi village showed that, FHHs ownership of land was recognised through customs existing in their area as reported by one participant that;

> *Our land tenure is ensured through inheritance of the customary land by surviving household members. Nonetheless, sometimes the village government allocates land. However, the security of tenure is still questionable. With inheritance farm size becomes smaller as the clan gets bigger thus, resulting to failure to produce enough despite the fact that, we depend on farming for our survival (FDG participant on 4$^{th}$ December, 2013).*

Further analysis on FHHs perception towards the existing land tenure system was done, whereby an attitudinal index was developed using a list of twelve variables (the variables are shown in Table 9). Their responses to each attitudinal statement were initially recorded as "Strongly agree", "Agree", "Undecided", "Disagree" and "Strongly disagree." Then "Strongly agree" and "Agree" variables were combined to be Agree whereas "Disagree" and "Strongly disagrees" became "Disagree." Then each positive argument was given the highest value which was "3", for correct response, undecided argument was awarded "2"scores and "1" score was given to negative statements if incorrectly answered. Responses for the 12 attitudinal statements are summarised in Table 9.

**Table 9: The value and determining factors of FHHs perceptions on existing land tenure system (n=120)**

| **Statements** | **Disagree** | **Undecided** | **Agree** |
|---|---|---|---|
| Women should be given equal right to own land | 1 | 2 | 3 |
| Promotion of land tenure system where entitlement goes to male children | 1 | 2 | 3 |
| Women should participate in decision making about land ownership | 1 | 2 | 3 |
| Widows, single or unmarried women should be considered in land inheritance | 1 | 2 | 3 |
| Types of crops to be grown on the family land is decided by male member of the household | 3 | 2 | 1 |
| The decision to use the inherited land by women should be made by themselves | 1 | 2 | 3 |
| Indirect control of land by women has effect to economic wellbeing of women | 3 | 2 | 1 |
| Discourage land tenure system in which entitlement goes to female children | 3 | 2 | 1 |
| Give hand to land tenure system in which male's relative are allowed to inherit land | 3 | 2 | 1 |
| Land title deed should be given to people with high income level | 3 | 2 | 1 |
| Land title deed increases the probability of finding supplementary wage employment | 1 | 2 | 3 |
| Women have minimal chance of being given land | 3 | 2 | 1 |
| ***Determining factors*** | n | | % |
| Disagree <24 | 11 | | 9 |
| Undecided =24 | 9 | | 8 |
| Agree >24 | 100 | | 83 |

***Scores key; 1= Disagree, 2= Undecided and 3= Agree***

According to Table 9, the majority (83%) of respondents were above the average score 24 of the determining factors, suggesting that most of them have positive perception regarding the existing land tenure system. These observations are supported by observations from the FGD meetings at Mtamba village in (Kisemu ward) held on December 11, 2013 where the FGD members revealed that, "Customary land law is the one existing in the areas (whereby few people have knowledge on the 1999 Village Land Act)".

In addition to the above, another participant reported that

> *Distribution of land is a family matter. Others have large plots while others have little plots depending on clearance of virgin land, which was done by their ancestors (FGD participant, Kungwe village in (Kiroka ward, 12 December, 2013). But the issue of land rights especially inheritance issue, depends on how the family is tied to cultural practices. For instance a widow may be chased away or retained after the death of her husband taking care marriage properties, land included. So generally, the issue of land rights depends much on socio-cultural ties one has but in most cases FHHs are less considered (FGD participant, Mkuyuni village (in Mkuyuni ward), 10 December, 2013).*

Although FHHs are aware of the existing land tenure system, they still need more amendments to be done. Despite the study area being a matrilineal community things are not like the matriarchal system wants them to be as observed from the FGDs that;

> *Customary land system is practised in the area where by inheritance land goes to children regardless of their sex (both male and female children have equal rights). Land is a family property; it is not for an individual, though nowadays some have started to adapt new changes, people can buy land. The matrilineal system is just by name but other things are not matriarchal (FGD participants from Mtombozi, Mkuyuni and Kungwe, discussion held on 6, 10 and 12 December, 2013 respectively).*

An independent sample t- test was carried out to further determine the respondent's perception regarding the existing land tenure system towards income poverty status. This was done to determine whether there was a significant difference in perception scores between *de_facto* and *de_jure* FHHs. Based on the results presented in Table 10, the

independent sample t-test results indicated that; the perception of *de_facto* and *de_jure* FHHs did not differ significantly at p>0.05, p=0.794. This implies that; both the *de _facto* and *de_jure* FHHs had the same perception on the existing land tenure system.

**Table 10: The independent t-test results to compare perception between *de_facto* and *de_jure* HHs (n=120)**

| | **Levene's Test for Equality of Variances** | | **t-test for Equality of Means** | | | | | | | 95% Confidence Interval of the Difference | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | F | Sig. | t | Df | Sig. (2-tailed) | N | mean | Mean Difference | Std. | Lower | Upper |
| *De_facto* FHHs | 0.39 | 0.53 | -0.262 | 188 | 0.794 | 52 | 33.81 | -0.178 | 3.71 | -1.521 | 1.165 |
| *De_jure* FHHs | | | -0.261 | 109.12 | 0.794 | 68 | 33.99 | -0.178 | 3.66 | -1.524 | 1.169 |

### 4.5 Respondent's Land Tenure System and Households Income Poverty Status

A multiple linear regression model was used to determine the influence of land tenure system on household's income among FHHs in Morogoro District as hypothesised in specific objective three of this study. The study's model parameters were; respondent's marital status, age, occupation, farm size, availability of agricultural extension services, market accessibility for the products that household produce, family size of the said household, farm distance from home and total score of land tenure system (access to land,

modes of land acquisition and farm size as the main parameters of land tenure in this study).

### 4.5.1 Overall evaluation of the multiple linear regression model

The $R^2$ of the model was 0.725 which equals to 72.5% (0.725*100); this implies that 72.5% of the variables were well explained by the model. However, it also implies that there are some variables which significantly affect household's income that are not included in the model estimation. Such variables may be investigated in further researches. The F-value of 26.014 was significant at 99% level ($p \leq 0.05$) also indicates that, overall the data fitted well to the model (Appendix 6).

### 4.5.2 Estimates of the study MLR parameters showing influence of land tenure system on surveyed household's income

Results from the regression analysis (Table 11) show that, all the variables were significant with the exception of the engagement in agricultural activities and availability of extension service and farm distance from home. Furthermore, results shows that, occupation of the respondents, market accessibility for the products that households produce and land tenure system carries a positive sign and were significant ($p< 0.01$), $p=0.000$, $p=0.007$ and $p=0.003$ respectively. This implies that one's occupation has a great influence on the total income of the said household as discussed earlier (sub-section 4.1.5). According to Jari and Fraser (2009), markets are very important in reducing poverty and improving the livelihoods of households so accessibility to land is vital. Takawira (2008) defined accessibility as the ability or easiness of reaching various destinations or places offering opportunities for a desired activity. Therefore, market accessibility improves the price of products and hence contributes to the struggle against income poverty reduction especially that of FHHs through increased economic efficiency and lowered costs and

promotion of social and economic opportunities. This observation is similar to what was reported by Bingen (1998), that better market access can boost yields by making farmers able to transport their surpluses quickly and cheaply to points of sales; this in turn motivates them to increase production.

Results from the regression analysis further show that, a household's total acreage (land owned) as expected had a positive contribution with $p<0.005$; $p= 0.014$ implying that farm size influences total income of the household since there is a great possibility of using the land for different activities and hence increase a household's income. Small or large farms may be resource poor or rich; nonetheless one can diversify agricultural production based on market forces. Considering economies of scale, large farms may be more efficient but in the absence of economies of scale, small farms may be more efficient due to the favourable incentive structure in self-employed farming (Cotula *et al*., 2006). This observation complies with findings reported by Karugia *et al*. (2006) that, even where farm sizes are small access to productive land is an important source of income in rural areas where a large population are found.

Table 11 also shows that respondents' marital status is positively and statistically significant at the 0.05 levels ($p= 0.046$). Despite inadequate and faulty data related to FHHs and land tenure system on income status, available evidence suggests that *de_jure* FHHs have very low levels of income and they are likely to be amongst the poorest. According to Diop (2005), with the exception of low levels of land ownership FHHs are not particularly disadvantaged in terms of asset ownership. Despite, being an institutional factor marital status has a great influence on family matters since a number of obligations (productive and reproductive ones) are fulfilled which in turn determine a household's income.

**Table 11: Results of the multiple linear regression on factors influencing land ownership and income poverty status among FHHs (n=160)**

| Model | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | **B** | **Std. Error** | **Beta** | **t** | **Sig.** |
| (Constant) | 12.372 | 0.293 | 0.23 | 42.258 | 0.000 |
| Marital status of respondent | 0.219 | 0.108 | -0.24 | 2.023 | 0.046* |
| Respondent's year of birth (Age) | -0.009 | 0.005 | 0.69 | -1.949 | 0.053* |
| Occupation of the respondents in the household | 0.653 | 0.063 | 0.18 | 10.32 | 0.000** |
| Farm size | 0.038 | 0.015 | -0.07 | 2.504 | 0.014** |
| Availability of agricultural extension services | 0.059 | 0.057 | 0.124 | 1.042 | 0.301 |
| Market accessibility for the products that household produce | 0.115 | 0.063 | 0.004 | 1.839 | 0.007** |
| Family size of the said household | 0.053 | 0.028 | 0.185 | 1.954 | 0.054* |
| Farm distance from home | 0.001 | 0.002 | 0.034 | 0.522 | 0.603 |
| Total score of land tenure parameters | 0.163 | 0.053 | 0.338 | 3.075 | 0.003** |

Dependent variable (Y) = Total annual income of the household in TAS

R = 85%; $R^2$ = 72.5%; Adjusted $R^2$69.7%; F. statistics 26.014; n =160

Note: ** = Significant at 95% level of confidence; * = Significant at 90% level of Confidence

$p \leq 0.05$

Family size of the said households was positively and significantly ($p \leq 0.05$; P=0.054) related to household total income as shown in Table 11, implying that having an optimum family size contributes to household income. Results (Table 11) are consistent with the

results by Muraleedhan (2006) and Idrisa *et al*. (2008) and which showed that, the larger the household size, the greater the responsibilities, especially, in a situation where many of the household members do not generate any income but only depend on the household head.

The MLR results further show that, the age of respondent was also statistically significant in relation to household income at $p \leq 0.05$. Although, it carries a negative sign meaning that as the age of respondent increases a households income decreases; this may be due to inability to engage in different activities especially land related activities. As observation from the study 33% of respondents were between 46 and 60 years with an average of 49 as shown early in Table 2.

Regression analysis results (Table 11) also show that, access to agricultural extension services is not significantly related to a household's income. Observations during the FGDs revealed that;

> *There was no or little extension services provided in the study area (FGD participant, 6 December, 2013 at Mtombozi village).*

The study's expectation on this predictor was to be statistically significant. As a matter of fact; extension services are an important factor in promoting agricultural production through provision of expert advice and technical backup to farmers. In addition Temu *et al.* (2005) found that extension services have significant effect on the profitability of farm profit. However, the extension services are underprovided to women; this is due to the fact that apart from female farmers prefer women agents, extension services are often directed to farmers with sufficient resources in well-established areas in most cases men are the one, women do not necessarily possess such resources and thus be bypassed by extension

service providers (Anderson and Leavens, 2011). This observation is in accordance with that of URT (2008), that extension services reached the smallest proportion (34%) of the crop producing households. However, this observation remains a window of opportunity for future research.

Observation in Table 11, further show that the distance from the respondent's home had a positive impact on household's income, but it was not statistically significant. This may be due to the fact that respondents had farm plots just near their homestead or with a walking distance such that the effects of distance cannot easily be detected. The *priori* expectation was that farm distance could have high influence on a household's income as long walking distance may hinder farming efficiency hence, lower productivity and total income. This observation also provides an opportunity for further research.

Results from regression analysis (Table 11) also show that, land tenure system was significantly ($p \leq 0.05$; $p= 0.003$) related to household income. This observation suggests that land tenure system has a high influence on a household's total income. As a matter of fact, access to land is possible as the traditional land tenure favours women to inherit land in the study area. The study's observation is in agreement with Lyimo-Macha and Mdoe (2002). In addition, Englert (2008) reported that women in matrilineal ethnic group are more likely to acquire land by inheritance. Generally, the regression analysis results gives power to study to conclude that; there is a significant relationship between existing land tenure system and the income poverty status among FHHs as the disscused parameters showed.

# CHAPTER FIVE

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Conclusions

The main objective of this study was to assess the relationship between land tenure system and income poverty reduction among FHHs in Morogoro District. Specifically, the study determined land tenure system existing in the study area, assessed the perception of FHHs on the existing land tenure systems and determined income poverty status among FHHs based on the existing land systems.

Based on the study's observations it is concluded that: in spite of the small farms that FHHs hold, yet there is poor control of land ownership in the study area which demands some immediate action to ensure security of tenure. Doing this could positively improve farm productivity which can then lead to reduction of FHH's income poverty. Moreover, such action will also lead to improved living standards of the rural poor, women included.

It is also concluded that, FHHs had a positive perception on the existing land tenure system on issues related to equal rights and women's participation in decision making on land ownership. However, their perception and awareness were not translated into equality in control over land resource whereby most admitted to have access to land. However, control was preserved to the male members of the family/clan.

It is further concluded that, land tenure system was related significantly on annual income of the surveyed households. Nonetheless, the main occupation, farm size, marital status, family size and land tenure statistically significantly contributed to the household's income.

## 5.2 Recommendations

Based on the study findings the following are recommended:

i. Concerted efforts of all stakeholders should be engineered by Local Government Authorities (LGAs), including NGOs, and development practitioners are highly needed, in order to ensure enough land in their areas of jurisdiction is distributed and owned fairly by vulnerable groups FHHs among them. Doing so will not only be enhance their productivity but also allow them to earn income that is crucial in this fight against poverty.

ii. Increase extension services availability by training more extension workers who can help to open avenues of knowledge and information, new technologies and opportunities for training to increase their farm productivity and income. This will result into more vibrant input markets which will also increase the returns to market access.

iii. The government should intervene on land tenure under customary laws by reframing land policies, in which through customary laws provision of certificates and land titles in order to improve land security and access to financial services for income poverty reduction.

iv. More research on land tenure system and income poverty reduction shall help to broaden and enrich enough knowledge to all stakeholders in getting rid-of income poverty as many studies and strategies have been done on poverty reduction, yet, income poverty is distressingly high especially to defenceless groups such as FHHs.

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# APPENDICES

## Appendix 1: Consent form

My name is Beatrice Kapitingana a Masters' student at Sokoine University of Agriculture (SUA). I am researching on the "Impacts of Land Tenure System in Income Poverty Reduction among Female headed households in Morogoro District."

As a student research work gives me a way forward in attaining partial fulfilment of my study. I am asking for your assistance by giving some basic but accurate information on this subject "Land tenure system as related to income poverty reduction among female headed households in Morogoro District." I have obtained permission from my University and the District Executive Director (DED). Study findings will be useful for development practitioners and researchers. Specifically, those interested with disadvantaged groups and community members will benefit by exploring lessons that can enable them to adjust their tenure system for improving rural livelihood both in food production and income poverty reduction as well.

Whatever information you give will be handled confidentially and will only be used for purposes of this study and nothing else. You can choose to participate or not. I hope you allow me to continue with the interview.

**THANK YOU!**

**Appendix 2: Questionnaires**

Paper number

**Part I. Background information**.

Date ……. Duration (hours) …….

1. Name of respondent……..
2. Respondent's year of birth..... Contact (s) if any……
3. Name of Division ……..
4. Name of Ward ……...
5. Name of Village ……Hamlet …….
6. Marital status

| | | | | | |
|---|---|---|---|---|---|
| 1. Married | [ ] | 3. Widow | [ ] |
| 2. Single | [ ] | 4. Separated | [ ] |
| 5. Divorced | [ ] | | |

7. Enter number of people in your household according to sex and age

| S/N | Name of HH Member (s) | Relationship with HH | Sex | Year of birth | occupation | Level of education |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

8. What is the status of where you live?

| | | | |
|---|---|---|---|
| 1. Own house | [ ] | 3. Rented house | [ ] |
| 2. Parents House | [ ] | 4. Inherited | [ ] |

9. Of what materials are the different parts of the house made of?

| Walls | Roof | Floor |
|---|---|---|
| 1. Mud / soil | 1. Dry grass | 1. Soil / Cow dung |
| 2. Bricks | 2. Iron Sheets | 2. Cement |
| 3. Others(Specify) | 3. Others(Specify) | 3. Others(Specify) |

10. Estimate the number of meals taken per day.....

11. Do you have problems in satisfying household food needs?

Yes [ ] No [ ]

**Part II: Access to Land**

12. Do you own land?

| | |
|---|---|
| 1. Yes | 2. No |

***If answer is no, jump to 16, otherwise continue with 10.***

13. If yes how did you get it?

1. Inherited [ ] 3. Purchased [ ]
2. Given as a gift [ ] 4. Rented [ ]
5. Others (specify) ……

14. What is the total acreage of your land? ……. acres.

15. Is your land on one plot? Yes [ ] No [ ]

16. If yes how many plots do you have and their distances?

| Plot 1 | Plot 2 | Plot 3 | Plot 4 | Plot 5 |
|---|---|---|---|---|
| ----km | ----km | ----km | ----km | ---- km |

17. Do you have a title deed (Formal proof) for your land? Yes [ ] No [ ]

18. If yes how did you get it ……

19. Have you ever bought land? Yes [ ] No [ ]

20. If yes what was the reason? ……

21. Have you ever sold land? Yes [ ] No [ ]

22. If yes why did you sell it? ……

23. Do you get any government support in getting land?

Yes [ ] No [ ]

22. Which kind of support do you get?

1. Legal support [ ]
2. Information on where the land is available [ ]
3. Land survey [ ]
4. Others (specify) ……

**Part III: Economic Status**

23 Do you engage in any agricultural activity?

Yes [ ] No [ ]

24 Do you get any government assistance / support while engaging in the agricultural activity? Yes [ ] No [ ]

25 If yes, what type of assistance do you get when engaging in agricultural activity?

1. Extension services [ ]
2. Supply of farm implements [ ]
3. Accessing the market [ ]
4. Others (specify) ……..

26. From whom? .....

27. Is there any agricultural extension services given in your area?

Yes [ ] No [ ]

28. If yes which of the following agricultural extension services do you get from the government or the government argent?

1. Technology Transfer [ ]
2. Advisory work [ ]
3. Agricultural production Monitoring [ ]

29. Do households seek extension services? Yes [ ] No [ ]

30. If yes from whom advice is sight? ……..

31. If no why? ……

32. What challenges do you face on accessing the extension services?

1. Lack of time to go and on a regular basis [ ]
2. Lack of such services [ ]
3. Unaffordable consultation fees
4. Others (Specify) …….

**Part IV: Production and Consumption**

33. Which crops do you produce ……..

34. Can you estimate how much do you get from agricultural production?

……

35. Is the market easily accessible for the products that you produced?

Yes [ ] No [ ]

36. What is sold distance? ……Km

37. Mention sources of market information available in your area ……

**Part V: Income Generating Business Activities**

38. Do you engage in any income generating activity?

Yes [ ] No [ ]

39. What kind of income generating activity, do you engage in? (Mention all them)

……..……

40. Where did you get your initial capital for starting your business?

.....

41. Based on the following options what was the most challenging thing encounter when starting income generating activities?

1. Lack of capital [ ] 3. Both 1 & 2 [ ]
2. Lack of Information [ ] 4. Lack of Market [ ]
5. Others (Specify) ……

43. Do you get any support for operating the income generating activity?

1. Yes [ ] 2. No [ ]

44. If yes from where? Give detail(s) ……

45. Can you roughly estimate the income you generate per day?

Mention the amount …….. (TAS)

46. For how long can one tin of maize be used in your household? ----------

(How much do you spend on food per day? ……. TAS)

**Part III: Formal Employment**

47. What is your main source of household income? Put (V) for your choices

1. Farming [ ] 3. Farming and Business [ ]
2. Business [ ] 4. Formal Employment [ ]
5. Others (specify) …….....

48. What is your household's annual income? (Estimate) ……..TAS

49. Who mainly decides for the income in your family?

1. My brother [ ] 3. My brother in law [ ]
2. Myself [ ] 4. My children [ ]
5. Others (specify) ……

**Thank you for your time and cooperation**

**Appendix 3: Checklist for key informants**

1. What do you know about the existing land tenure system practices in your area?

2. What are your impressions about the existing land tenure system practices in your area?

3. Who has the responsibility of allocating land in your area?

4. Who is entitled to own land in your area?

5. With regard to land, who has the right to inherit it in the household?

6. Who benefits more from customary allocation of land? Men or women? Why?

7. In what ways does land ownership help in poverty reduction efforts among women?

8. What are your suggestions on what should be done to ensure that women own land?

9. What are the perceived challenges facing women regarding land ownership?

10. What measures should be taken to ensure that women are empowered to own land?

**Thank you for your time and cooperation**

**Appendix 4: Perception of female headed households on the existing land tenure system**

Please use the following scale to indicate your extent of agreement about how well each of the following statements is an accurate description of your perception on female headed households on the existing land tenure system. Put (V) in the space provided against each statement

Key: SD= Strongly disagree, D=Disagree, U= Undecided, A= Agree, SA= Strongly agree.

| S/N | Attitudinal Statements | SD | D | U | A | SA |
|---|---|---|---|---|---|---|
| 1 | Women should be given equal right to own land | | | | | |
| 2 | Land tenure system where entitlement goes to male children should be promoted for clan's property protection | | | | | |
| 3 | Women should equally participate in decision making about land ownership | | | | | |
| 4 | Widows, single or unmarried women should be considered in land inheritance | | | | | |
| 5 | The type of crops grown on the family owned land is decided by the men who is the member of the household | | | | | |
| 6 | The decision to use the inherited land by women should be made by themselves | | | | | |
| 7 | Indirect control of land by women has effect to economic wellbeing of women. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 8 | Land tenure system in which female children are entitled to land should be discouraged since they can easily give the clan land to men when get married | | | | | |
| 9 | Land tenure system in which male's relatives are allowed to inherit land once the owner dies should be given hand regardless of the married couples had children or not | | | | | |
| 10 | Land title deed should be given to people with high income level | | | | | |
| 11 | Formal ownership of land by women can be used as a collateral asset for credit. | | | | | |
| 12 | The existing land tenure system gives women minimal chance of being given land | | | | | |

**Thank you for your time and cooperation**

**Appendix 5: Checklist questions for focus group discussion with de-jure female headed households (unmarried women)**

Participant's Names 1. ----------

2. ----------

3. ----------

4. ----------

5. ----------

6. ----------

7. ----------

8. ----------

**Under this section, please give your ideas according to your level of understanding on the existence of land tenure system and income poverty status on female headed households in your area.**

1. How land tenure system operates in the study area?
2. What is your opinion on rights to inherit land in your area as far as female headed households is concern?
3. How does land ownership helps one to reduce income poverty?
4. What are the perceptions of people on female headed households on income poverty reduction based on land tenure system?
5. Does government or Non-Governmental Organization (NGOs) give any support on land ownership issues?

**Thank you for your time and cooperation**

**Appendix 6: Results of overall evaluation of the multiple regression model**

| **Anova Table** | **Sum of Squares** | **df** | **Mean Square** | **F** | **Sig** |
|---|---|---|---|---|---|
| Regression | 13.656 | 8 | 1.707 | 26.014 | 0.000a |
| Residual | 5.184 | 79 | 0.066 | | |
| Total | 18.84 | 87 | | | |
| R | R.Square | Adjusted R.Squiares | Std.Error of Estimate | | |
| 0.851a | 0.725 | 0.697 | | | |

**Appendix 7: Results of multicollinearity problem test in multiple regression model**

| | **Collinearitystatistics** | |
|---|---|---|
| **Predictors** | **Tolerance** | **VIF** |
| Constant | | |
| Marital status of respondent | 0.586 | 1.707 |
| Respondent's year of birth (Age) | 0.442 | 2.262 |
| Occupation of the respondents in the household | 0.698 | 1.434 |
| Farm size | 0.520 | 1.922 |
| Availability of agricultural extension services | 0.868 | 1.152 |
| Market accessibility for the products that Hh produce | 0.687 | 1.455 |
| Family size of the said household | 0.713 | 1.402 |
| Farm distance from home | 0.866 | 1.155 |
| Total score of land tenure parameters Labour | 0.808 | 1.238 |