YOUTH PARTICIPATION IN HOLTICULTURE AND POVERTY REDUCTION IN RURAL AREAS: A CASE STUDY OF HORTICULTURAL PRODUCTION IN MVOMERO DISTRICT, TANZANIA

YOUTH PARTICIPATION IN HOLTICULTURE AND POVERTY REDUCTION IN RURAL AREAS: A CASE STUDY OF HORTICULTURAL PRODUCTION IN MVOMERO DISTRICT, TANZANIA

By

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A Research Report Submitted to the Institute of Development Studies in Partial Fulfillment of the Requirements for the Award of Master Degree in Development Policy (MSc DP) of Mzumbe University.

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CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled "**Youth Participation in Horticulture and Poverty Reduction in Rural Areas: A Case Study of Horticultural Production in Mvomero District, Tanzania"** in partial fulfillment of the requirements for the award of the degree of Master of Science in Development Policy of Mzumbe University**.**

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Major supervisor

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Internal Examiner

Accepted for the Board of Institute of Development Studies (IDS)

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DIRECTOR, INSTITUTE OF DEVELOPMENT STUDIES

DECLARATION AND COPY RIGHT

I, George Nyalulu Gulamiwa, declare that, this dissertation titled " **Youth Participation in Horticulture and Poverty Reduction in Rural Areas: A Case Study of Horticultural Production in Mvomero District, Tanzania"** is my original work and that, it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature: _____

Date: _____

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DEDICATION

This dissertation is a dedication to my parents, Jeremia S. Gulamiwa and Theresia Pauline, for their support and inspirations. I also, dedicate the work to my late grandmother and grandfather who always encouraged me to excel academically.

LIST OF ABBREVIATIONS AND ACRONYMS

ACCA	-	Association of Charted Certified Accountants
ASDP	-	Agricultural Sector Development Programme
CARE	-	Cooperation for America Relief Everywhere
CRDB	-	Commercial Rural Development Bank
DADPs	-	District Agricultural Development Projects
DAIDO	-	District Agriculture and Irrigation Development Officer
DCDO	-	District Community Development Officer
DEC	-	Direct Entry Consumption
DER	-	Dietary Energy Required
DFID	-	Department For International Development
DHS	-	Demographic and Health Surveys
DTO	-	District Trade Officer
EKN	-	Embassy of the Kingdom of the Netherlands
ERP	-	Economic Recovery Programme
ESR	-	Education for Self Reliance
EUROSTAT	-	Statistical Office of the European Commission
FANRPAN	-	Food, Agriculture and Natural Resources Policy Analysis Network
FDI	-	Foreign Direct Investment
FY	-	Financial Year
GDP	-	Gross Domestic Product
GIPC	-	Government of India Planning Commission
HBS	-	Household Budget Survey
HDI	-	Human Development Index

HIPC	-	Highly Indebted Countries
HIP	-	Human Poverty Index
HODECT	-	Horticultural Development Council of Tanzania
HRD	-	Human Recourse Development
JICA	-	Japan International Agency
IDC	-	Youth Partner in Development Finance
IFAD	-	International Fund for Agriculture Development
LITI	-	Livestock Training Institute
MAFSC	-	Ministry of Agriculture Food Security and Cooperatives
MATI	-	Ministry of Agriculture Training Institute
MMA	-	Match Marker Association Limited
MTEF	-	Medium Term Expenditure Framework
MWLD	-	Ministry of Water and Livestock Development
NCDs	-	Non Communicable Diseases
NESP	-	National Eradication Structural Programme
NMB	-	National Micro-finance Bank
NPES	-	National Poverty Eradication Strategy
NSGRP	-	National Strategy for Growth and Reduction of Poverty
NYDA	-	National Youth Development Agency
NYDP	-	National Youth Development policy of Tanzania
OECD	-	Organisation for Economic Cooperation and Development
PBFB	-	Property and Business Formalisation Programme
PEIP	-	Poverty Eradication Programme
PMO-RALG	-	Prime Minister's Office Regional Administration and Local Government
PYBT	-	Prince's Youth Business Trust

RYLE	-	Youth Rural Training and Employment
SAP	-	Structural Adjustment Programme
SEFA	-	Small Enterprises Financial Agency
SELF	-	Small Enterprises Loan Fund
SIDA	-	Swedish International Development Agency
SMEs	-	Small and Medium Enterprises
SPSS	-	Statistical Package for Social Science
SUA	-	Sokoine University of Agriculture
SUGCO	-	Sokoine University Graduates Cooperatives
TAHA	-	Tanzania Agricultural Horticulture Association
TAPP	-	Tanzania Agricultural Productivity Programme
TAYEN	-	Tanzania Youth Environment Network
TPAWU	-	Tanzania Plantation and Agriculture Workers Union
UAE	-	United Arab Emirates
UKYDP	-	United Kingdom Youth Development Policy
UN	-	United Nations
UNIDO	-	United Nations Industrial Development Organisation
URT	-	United Republic of Tanzania
USD	-	United States Dollar
USDA	-	United State Department of Agriculture
VEO	-	Village Executive Officer
WEO	-	Ward Executive Officer
YEN	-	Youth Employment Network

ABSTRACT

The primary objective of the study was to assess the contribution of youth owned horticultural farms in poverty reduction in rural areas using a case of horticultural production in Mvomero District. The specific objectives were to: identify types of horticultural farms owned by youth, performance of youth in horticultural production, find out socio-economic outcomes of youth participation in horticultural production, and identify factors influencing youth horticultural activities and to find out ways of improving the youth horticultural production. Purposive and random sampling techniques were used to get data from 60 respondents. Data were collected through interview, structured questionnaires, observations and group focused discussions and analysed by using Statistical Packages for Social Science (SPSS) and Microsoft excel programme. Finally, the findings were presented in tables and pie charts.

Findings show that horticultural farms owned by the youth were tomatoes, cabbage, green pepper, carrot, cauliflower, eggplant and potatoes farms. The performance of the youth in horticulture was good as indicated by their positive perception of the horticultural activities, quantity and quality of the product produced, socio-economic outcomes of horticulture including increased household income, house construction, ability to pay education cost, ability to get basic needs and ability to save. Facilitating factors included water availability, construction of horticulture centre, support from the government and NGOs, willingness of the youth and poverty. Limiting factor included high cost inputs, transport problems, bureaucracy on subsidies distribution, poor financial support and farming technology.

Basing on the limits, it is recommended that improving transport system, environment to access loans and quality control system on subsidies should be improved. Also, a holistic approach is necessary to realise positive socio-economic impacts on the people employed in horticulture.

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CHAPTER ONE

BACKGROUND OF THE STUDY

1.1 Introduction

This chapter presents background of the study. It covers background of the problem, statement of the problem, research objectives, research questions, significance, scope and delimitation, limitations and organisation of the study.

1.2 Background of the Problem

Horticulture dates back to 17th century following the growth of large cities and practiced by individuals to produce necessary garden crops on their own property (URT, 2002).The development of horticulture was fueled by industrial revolution in 1800s.The revolution in industry resulted to the discovery of machine power, plant exploration, home gardening and new land crops. The revolution had impact in horticulture in the 1900s and 21st century where chemical were produced to support horticulture growth. Also, plant breeding, refrigeration and storage stimulated further the development of horticulture (Von, 2015). The industry gained momentum in 1960s on the universe, during the last three decades horticulture has far exceeded than in most agricultural commodities. Since 1970s, annual growth rates for vegetable supplies have surpassed cereals by 200 percent to 800 percent, with much of this acceleration occurring in the 1990s. The increasing world consumption of horticultural products is driven by rising in income, urbanisation, awareness of health, and changing labour practices. The current growing horticultural production is associated also by development in production practices, postharvest technology, shipping and storage which allow sourcing of materials throughout the world and increase in market opportunities. Urbanisation and change in the labour market, including the expanded presence of women in the work force and demand for convenience foods like prepared salads, fresh-cut fruits and restaurant food. The vast expansion in horticultural production has occurred through increased land devoted to

agricultural produces and investment irrigation and fertilization inputs (USAID, 2005).

In the developed world China's is the best horticultural supplier, the annual growth rate in fruit and vegetable in 1981-1990 was 7.5 % and in 1991-2000 the growth rate was 9% in the same horticultural products while horticulture products in cereals horticultural products was 0.8. The most top three importers of vegetable are United States, European Union followed by Japan. However, studies have shown that the highest growing markets for horticultural exports include Russia, India and Turkey. Exported horticultural crops to the top three horticultural product consumers are grown in Africa, Latin America and the Caribbean (HODEC, 2010).

In developing nations most of the countries producing horticulture products are in south Asia. The annual growth rate in fruits and vegetable is 0.8% in 1981-1990 while in 1991-2000 is 2.5%.This is contrary to Latin America and Caribbean which has the annual growth rate of 0.5% in 1981-1990 and 1.1% from 1990-2000.The Sub-Saharan Africa annual growth rate from 1981-1990 ranked -0.4% and in 1991-2000 records -0.1% (Weinberger et al., 2005).

The strong growth in global markets for horticultural products in both developed and developing world over the past 30 years has occurred during a period of rising labour costs, escalating environmental constraints and competition for land from urban expansion in the developed world. The consequence of these pressures has been the transfer of much horticultural production from the developed world to the developing world, resulting in a ten-fold net increase in imports of horticultural products into the developed world's market (Weinberger and Lumpkin, 2005).

In Africa horticulture is being practiced in different parts of the continent. The first vegetable production was started by the Dutch in 1653. Horticulture in flower industry began in the 1920s and 1930s. It was during these years the country's first South Africa based horticulture projects started. Many projects were imitated by Dutch immigrants while establishing themselves among indigenous South African flower growers. The Sub-Saharan Africa annual growth rate from 1981-1990 ranked

-0.4% and in 1991-2000 records -0.1 % (Embassy of the Kingdom of Netherland, 2010).

Tanzania started exporting horticultural products to Europe in 1950s with the productions of bean sold to Europe.

In 1970s perishable horticulture exports to Europe started following the success of Kenya's horticulture export. Horticultural industry has experienced tremendous growth since in 1987 following the establishment of Tanzania Flowers Limited (TFL) in Arusha and Kilimanjaro regions. Horticultural sub-sector has achieved rapid growth and is currently averaging 6-10% per annum (HODEC, 2010).

The industry of horticultural production has grown from 600 square meters to more than 208 hectares involving growing of various products. The growth of horticultural production has spread to other regions of Tanzania including in the eastern zone particularly in Morogoro, Pwani and Dar-Es-Salaam regions. In the central, horticulture is practiced in some parts of Dodoma and Singida regions. Other regions including Mbeya, Iringa, Tanga, Mwanza, Kagera, Mara, Kigoma and Manyara are practicing horticultural production (TPAWU, 2011).

Horticulture in Tanzania plays important roles in employment creation and poverty reduction for some youth who constitutes the work force of the country. Horticulture is the fastest growing industry in Tanzania, according to Tanzania Horticultural Association, her export growth at 8%. The horticultural sector earns nearly $ 130 million each year providing jobs to 30,000-50000 people (TAHA, 2009). The production, distribution and consumption of these horticultural produce has increased tremendously from 0.89 billion tons to 1.3 billion tons (FANRPAN, 2012).

The products produced in the sector are Asian vegetables, baby corn, baby marrow, beetroots, beans, cabbage, carrots and baby carrots, cauliflower, eggplant, kale, leeks, onions and shallots, okra, peas (mangetout, snap and snow peas), potatoes, spinach and tomatoes. The volume of exports of these crops in 2000 was: vegetables 6,706 tons, flowers 2000 tons, spices 1241 tons, and fruits 3,888 tons, earning the nation over TShs 7.8 billion in foreign exchange (URT, 2002).

Currently, the income generated from horticulture industry within the country signifies the improvement in the production of the quantity and quality of horticultural products. For instance, foreign exchange has increased from USD 46.7 million per annum in 2006/07 to USD 112.6 million in 2008/09 and USD 127.7 million in 2010/11 generated from horticultural industry (Masindano *et al.*, 2013).

Mvomero is among six districts in Morogoro region where horticultural production activities are implemented. It was reported that poverty rate was estimated to reach 26% (URT, 2007). The population in the district stands 312,109 and average house hold of 4.3 (URT, 2012).The district economy depends mainly in agriculture production of cash crops, food crops and live stock production. Despite of the significance of horticulture in the district economy and the country at large, horticulture in the area is not fully taped due to some constraints. The number of people involving in horticultural production is still unknown. However, the current number of people involving in horticultural production are youth and women cultivating tomatoes, cabbage, green pepper, cauliflower, carrot, eggplant, potatoes, spinach, peas and beans (URT, 2014).

1.3 Statement of the Problem

Mvomero District produces a wide range of horticulture products including tomatoes, cabbage, carrot, cauliflower, eggplants and potatoes. Horticulture is a means for economic improvement for the youth in the district. In recognising horticulture as a vehicle for socio-economic improvement and poverty reduction, the government and NGOs formulated pro-poor policies, strategies and improving infrastructure for more profit to the poor. Agriculture policy (1997) aims to reduce poverty by encouraging youth to engage in horticulture to improve living standards through agriculture (URT, 1997). In this view, different studies have been done about horticulture and poverty reduction including; Vandernberg (2006); TPAWU (2011); MMA (2008); Mashindano et al.(2013); and Mashashua et al. (2008).Despite the studies on poverty and efforts to reduce poverty still poverty exists in the district and still little is known about youth participation in horticulture and poverty reduction. Current and previous studies have not shown interest in documenting about youth horticulture participation

and poverty reduction. This study assessed the contribution of youth owned horticultural farms in poverty reduction in Mvomero District.

1.4 Objectives of the Study

1.4.1 The Main Objective

To assess the contribution of youth owned horticultural farms in poverty reduction in Mvomero District.

1.4.2 Specific Objectives

i. To identify the types of horticultural farms owned by youth in Mvomero District.
ii. To examine performance of youth in horticultural production in Mvomero District.
iii. To find out socio- economic outcomes of youth participation in horticulture in Mvomero District.
iv. To identify the factors influencing youth horticultural activities in Mvomero District.
v. To find out the ways of improving youth horticultural production in Mvomero District.

1.5 Research Questions

1.5.1 Main Research Question

How do youth owned horticultural farms contribute in poverty reduction in Mvomero District?

1.5.2 Specific Research Questions

i. What are the types of youth owned horticultural farms in Mvomero District?
ii. What is the performance of the youth in horticultural production in Mvomero District?

iii. How youth participation in horticultural production contribute poverty reduction in Mvomero District?
iv. What are the factors influencing youth horticultural activities in Mvomero District?
v. What are the ways of improving youth role in horticultural production in Mvomero District?

1.6 Significance of the Study

The research findings are vital to Mvomero District Council and NGOs dealing with poverty reduction. The study provides useful information on youth horticultural activities and how the sector can be improved as a way of reducing poverty. Furthermore, the findings of this study will be useful to community development officer and other agents responsible for reducing poverty to regard rural communities as their clients they are responsible to be accountable to fill to the gap that on youth's activities particularly horticultural production. Thus, policy makers will be able to come with better policies and strategies that will help the youth in rural areas to reduce poverty and achieve a better socio-economic development. Furthermore, the study will provide an insight to the youth as it recommend on the improvement on the performance of their entities.

1.7 The Scope and Delimitation of the Study

The study focused on youth participating in horticultural production. The study targeted youth aged 16-35 years in Mvomero rural areas.It was specifically carried in Mgeta and Mlali wards where horticultural activities are carried by the youth. To delineate the research, information about youth horticultural activities were sought to assess the contribution of these entities in poverty reduction.

1.8 Limitations of the Study

In the long process of accomplishing this study some limitations arose. First, time frame and financial difficulties affected the researcher during data collection. This was due to the fact that the researcher was self sponsored, thus was depending on his

sole source of income. Hence, it was difficult to meet all expenses while conducting the research. To solve this problem first, the researcher tried as much as possible to lobby the respondents to be confident with him to provide information.

1.9 Organisation of the Study

This section presents the specific content of each chapter in this study. Chapter one provides the introduction of the study that includes background of the problem, statement of the problem, research objectives, research questions, significance, scope and delimitation, limitations and organisation of the study.

Chapter two presents literature review related to the study. The chapter covers definition of key terms, importance of poverty reduction, poverty in global context, types of poverty, indicators of poverty, poverty measurements, and poverty reduction in Tanzania, policies and strategies for poverty reduction in Tanzania. Also, the chapter provides information about indicators of poverty diminishing in Tanzania challenges of poverty, theories of poverty, world horticulture outlook and youth horticulture in Tanzania, branches of horticulture, engagement of youth in horticulture and poverty reduction. Lastly, the chapter provides information about youth horticultural production and poverty reduction, environment for horticultural production, youth horticulture sustainability, theories on sustainability, development policies, empirical literature review, conceptual framework and research gap.

Chapter three is about the methodology of the study. It covers the study area, research design and approach, population and unit of analysis, sample size and sampling techniques, sampling procedures, types and sources of data, data collection methods, data processing and analysis.

Chapter four presents findings and discussion of the study, including demographic characteristics, type of horticultural farms owned by the youth, performance of youth in horticultural production, socio-economic outcomes of youth participation in horticultural production, influencing factor, and suggestions to improve horticultural activities. Chapter five presents summary, conclusions and policy implications of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents literature review in order to provide supplement information for the study. Specifically, the chapter covers, definition of terms, importance of poverty reduction, poverty in the global context, types of poverty, indicators of poverty, poverty measurement, poverty reduction in Tanzania, indicators of poverty diminishing, distribution of poverty in Tanzania, challenges of poverty, theories of poverty, world horticulture outlook and youth outlook in Tanzania, branches of horticulture engagement of youth and poverty reduction. Others are youth horticultural production and poverty reduction, theories on sustainability, development policies, empirical literature review, conceptual frame work and research gap.

2.2 Definition of Key Terms

Key terms used in this study that require elaboration include youth, horticulture, poverty and poverty reduction.

2.2.1 Youth

The concept of youth varies from one geographical to another depending on the customs and traditions, social behaviour and their location. The UN defines youth as a person aged between 14-24 years in this age the youth is expected by the community to start participating in various activities and becoming self-reliant in some extent (URT, 1996). The common wealth youth programme adopted age of 16 to 29 while in Malaysia youth refers to person of 15 to 40 years. In Tanzania the term youth varies depending on the specific purpose. In marriage issues the law of marriage of 1971 allows a young person of 15 years to get married. For the purpose of this study youth has been defined as young men and women from the age of 16 to 35 years.

The aforesaid age is the target because young men and women who have completed their primary education can enter into the industry independently without consistence requirements of parental or guardians assistance.

2.2.2 Participation

No common understanding on what really participation means since the word presents a number of difficulties in definition (Dulan, 2003). To fulfill the purpose of the study, the researcher adopted a definition by Fekade (1994) who claimed participation means individual choices and actions that people make as a part of their daily life encompassing the involvement of rural people in decision making sharing benefits and implementation.

2.2.3 Horticulture

Horticulture (Latin hortus, "garden'', culture, "cultivation") is a science and art of growing fruits (pomology), vegetables (olericulture), flowers(floriculture),shrubs and trees (landscape gardening). Horticulture was originally used to mean the practice of gardening and by extension, now horticulture means the cultivation of plants once grown in garden. This is contrast to agriculture which is by derivations referred to more open forms of culture including but not limited to the production of grains and grasses (URT, 2002). Horticulture as a branch of agriculture is concerned with growing plants that are used by people for food, for medicinal purposes and for aesthetic gratification (USDA, 2005).It is also defined as the science of growing and management of fruits, vegetables including tubers, ornamental, medicinal and aromatic crops, spices, and plantation crops their processing, value addition and marketing of the produced products (GIPC, 2007).

2.2.4 Poverty

Poverty is not an easy concept to define as a result range of definitions exists. The dominant definition of poverty has defined poverty in monetary terms using level of income to measure poverty. This view is reflected in defining the poor by head count of those who fall below a given consumption level or poverty line (Ravallion, 1992).

The above definition has been complimented by other approaches recently by defining poverty in a multidimensional ways. These approaches includes: The basic need approach, The human development approach which view poverty as violation to economic, political, social and civil rights like good health, adequate living standard, education and employment opportunities (UNDP, 1990). The third is capabilities approach, regarding to this approach Sen define poverty as deprivation of basic capabilities rather than merely lowness of income (Sen, 1999).The acceptance in the use of the approach in defining poverty is reflected in wide spread use of United National Development Programmes (UNDP) Human Index which is a composite measure of the three dimensions of human development; Life expectance, educational attainment and standard of living which measures income in terms of purchasing power parity (UNDP,2006). It also reflected in the Organisation for Economic Co-operation and Development (OECD) conceptualisation of multidimensional poverty defined as interlinked forms of deprivation in the economic, human, political, socio-cultural and protective sphere (UNDP, 2006).

For my purpose of the study, poverty means a condition characterized by deprivation of material (income, food, shelter, clothing) and non-material things (good health, voice in decisions making) leading a low achievement in education, health and living standards. In explaining poverty some classify poverty into absolute poverty and relative poverty. *Absolute poverty* refers to lack of access to basic needs for survival such as food, shelter and clothes. *Relative poverty* means a standard of living that is enough to satisfy basic needs but still significantly achieved at the low level. The above characteristics of poverty typically characterize the majority of people in Tanzania (Ravallion, 1992). Poverty can be further conceptualized as a standard of living where by one lives below a minimum accepted level (Mtafitikolo, 1994; Semboja, 1994 cited in Makombe *et al.*, 1999).

2.2.5 Poverty Reduction

Poverty reduction is a term that describes the promotion of economic growth that will permanently lift as many people as possible over a poverty line. Poverty reduction includes, measures that are intended to rise, enabling the poor people to

create wealth for themselves as a means for tackling current poverty and to end future poverty by focusing helping people in chronic poverty (Barder, 2009).

2.3 Importance of Poverty Reduction

Poverty reduction has been a pressing agenda on international communities. Efforts from international and local communities are vital towards reducing poverty since countries from different corners of the world are plagued by poverty. Poverty reduction remains very essential in guiding international communities to support national initiatives in order to bring relief and improvements in the lives of millions of the people and achieve concrete goals for community development. Also, poverty reduction manifests its importance in promoting opportunities equality, increase people's income and economic growth (World Bank, 2002).

It is important to recognise that poverty reduction implemented with the combination of efforts leads to opportunities expansion for the poor to obtain a decent income and thus, enable poor people to access to the essentials of life. Reducing poverty on a broad and deep scope will enable the poor and the vulnerable groups to earn a decent income rather than relying solely on public transfer. It is undeniable to accept the fact that with the estimates of 1.2 billion population being below the poverty line on the world and slightly 12 million of the population being below the poverty line in Tanzania, reducing poverty is essential to empower the poor and help people in both rural and urban areas to raise their welfare (World Bank, 2001).

Additionally, although there are tremendous decline in poverty over the past decade (UN, 2014) but, this progress has occurred unevenly. This may mean countries still face greater challenges to poverty reduction (such as fragile states and countries that are more vulnerable to climate change-induced poverty shocks). These people suffer from the most pervasive and extensive types of exclusion, adverse inclusion and exploitation. Thus, state action is important to reach these people, and reaching them is crucial to meeting not only income goals for severe and extreme poverty elimination but also broader health and development goals that were missed in the

last round of the MDGs, as these people disproportionately represent the world's under-nourished, under-educated and excluded (Turner *et al.,* 2015).

More important, poverty reduction is necessary in order to grasp the attention of finalisation of the post 2015 Millennium Development Goals (MDGs).The attention to reduce poverty is to meet the defined targets to be achieved by 2030 including proposed goal of "leaving no-one behind" and eradication of poverty. It is estimated that African states would still see on average achieving targets of reducing extreme poverty to below 15% by 2030 and eliminating extreme poverty shortly 2045. African countries are likely to remain at a low level regarding extreme poverty rate because of significant country level differences and different policy measures that may be needed to reduce poverty in different country contexts (Turner *et al.,* 2015).

2.4 Poverty in the Global Context

Poverty manifests itself in all corners of the world. However, its severity varies from one country to another point of destination. The Millennium Development Goal Report by UN (2014) claims 18 % of the world population live in extreme poverty. In developing nations, poverty is more prominent while the incidence of poverty in highly industrialised nations and OECD countries like United Kingdom and United States of America is less common. Developing countries' poverty is 22% while 4% of poverty is in developed countries (UN, 2014).

In developing countries poverty is more serious. For instance, Latin America and the Caribbean poverty is 12%, Southern Asia 30%, Southern-Eastern Asia 14%%, Northern Africa 1%, Sub-Saharan Africa poverty is 48%.The top five countries with large share of the global extreme poor in 2010 are India 32.9%, China 12%, Nigeria 8.9% Bangladesh 5.3% and 35.5% for other countries (UN, 2014).

The report from the World Bank reveals 1.22 billion people from developing countries on the global lived on less than $1.25 a day in 2010, compared with 1.91 billion in 1990, and 1.94 billion in 1981.Although there is an improvement even if the current rate of progress is to be maintained, some 1 billion people will still live in extreme poverty in 2015. Developing countries such as Eastern Asia and South

Eastern Asia have met the target of halving the extreme poverty rate. In Sub Saharan Africa and Southern Asia still lag behind. In 2010 one third of the world 1.2 billion extreme poverty lived in India alone. Despite much progress China ranked a second with about 13% of global extreme poverty (UN, 2014).

Tanzania is among of the countries where poverty has been an acute problem for a long period. Household Budget Survey 2011-2012 indicated a decline in Tanzania's poverty. However, approximately 12 million Tanzanians still live below the poverty line. National Poverty Profile postulate poverty still concentrated in rural areas while 78.3% of the rural population was living in extreme poverty (URT, 2013).

2.5 Types of Poverty

From a social researcher's point of view, poverty is a complex phenomenon influenced by a large number of factors and which can be studied from many different perspectives. There are many ways of classifying poverty, measuring poverty as there are ways of defining it. Within the huge variety of possible studies, a first classification refers to the type of base information used and which can be termed objective and subjective poverty; likewise, depending on the scale or reference used to set the thresholds, there are absolute and relative poverty. By applying an objective focus, analyses of both absolute and relative poverty types of poverty are explained by EUROSTAT (2002).

2.5.1 Absolute Poverty

Absolute poverty is defined as a situation in which the individual's basic needs are not covered, in other words, there is a lack of basic goods and services (normally related to food, housing and clothes). A person falling in this group fails to attain a specific (minimum) standard of living. The concept of absolute poverty is strongly linked to destitution and can be applied to all countries or societies. A person who is considered poor under this criterion is classified in the same way throughout the world.

2.5.2 Relative Poverty

Relative poverty locates the phenomenon of poverty in the society under study. From this perspective, a person is considered poor when they are in a clearly disadvantaged situation, either financially or socially, with regards other people in their environment. This idea of poverty is closely linked to the notion of inequality. Under this type of poverty a person can get basic needs but cannot meet beyond the basic needs.

The classification between poor people and those who are not poor, in this type of poverty, depends on the degree of development of the society under study and cannot be transferred to a different society. For example, one country may consider poor people to be all those whose annual income is less than 3,000 Euros, 3 whereas another country may classify a person as being poor whose income is below 7,000 Euros. Thus, a supposedly poor person in the second country may not be classified as such if the first country's criteria are used.

2.5.3 Subjective Poverty

This is the type of poverty where personal information on the opinion of the individuals their poverty situation is used to provide the characteristics of a person perceived to be living poor in a given society. This way of understanding poverty influences the subjective view that households have of their financial situation as opposed to the objective focus that only uses observable and measurable variables.

2.6 Indicators of Poverty

Indicators of poverty are important tool for designing and evaluating poverty reduction strategies, projects, and outcomes. They are useful for monitoring changes and trends over time. Furthermore, they provide a means for comparing progress across different countries and are needed for evaluating the results of projects (Gordon, 2005).

2.6.1 Overall Poverty Indicators

UN (1995) cited from Gordon (2005) commented that the overall poverty indicators takes various forms including hunger and malnutrition, limited or lack of access of education, water and sanitation, lack of income. Also, increased morbidity and mortality from illness, inadequate housing and homelessness and the last is social decimation and exclusion.

i. Hunger and Malnutrition

Hunger is a condition, in which people lack the basic food intake to provide them with the energy and nutrients for fully productive lives. In defining hunger the word food security is also used because the two words are related but, not synonymous. An absence of hunger does not imply food security and, particularly in times of stress, households and individuals may go hungry in order to safeguard longer-term food security (Hoddinott *et al.,* 2012). Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life (FAO, 2010). United Nations Food and Agriculture Organization (FAO) measure severity by estimating the prevalence of undernourishment [or hunger] as the proportion of the population in the Country with a level of Dietary Energy Consumption (DEC) lower than the Dietary Energy Requirements (DER) (Cafiero *et al,* 2011).

It is estimated that there are approximately 925 million hungry people in the world where by 180 million pre-school children are stunted. This entails that pre-school children as indicated by the data are the victims of chronic under nutrition. Additionally, linear (height) growth failure is widespread in poor countries. It is estimated 175 million or more preschool children are stunted, meaning their height given their age is more than two standard deviations below that of the international reference standard. Globally, the prevalence of stunting has been falling since 1990 but the regional distributional of this trend is uneven with rapid falls being observed in eastern Asia, Latin America and the Caribbean and no change in sub-Saharan

Africa. The greatest concentration of stunted children is found in south central Asia (Hoddinott *et al,* 2012).

ii. Lack of Access to Education, Water and Sanitation

One of the best ways to avoid being poor is to obtain a good education, access to safe water and sanitation. People who have higher levels of academic achievement and more years of schooling earn more than those with lower levels of human capital. Economists believe that schooling makes people more productive and that wages are related to productivity (Oxaal, 1997).

Additionally, water and sanitation in 2011 estimates 768 million people did not use an improved source for drinking-water including 185 million who relied on surface water to meet daily drinking-water needs. Urban drinking-water coverage has remained high over the past two decades, and currently only 4% of the urban population relies on unimproved sources. However, in spite of the high urban drinking-water coverage rates, issues of service quality remain (Gordon, 2005).

Literature speculates that 2.1 billion people gained access of water since 1990, almost two thirds, 1.3 million, lived in urban areas. In 2011, 83% of the population without access to an improved drinking-water source lived in rural areas. World Health Organisation speculates that inadequate sanitation, poor hygiene and unsafe drinking water contribute to 88% of diarrhoeal disease. For instance, India witnessed a severe outbreak of dengue fever when people stored water in their homes for use through dry spells, thus providing ideal habitats for Aedes mosquitoes (UNICEF, 2013).

iii. Lack of Income

Poverty is most often measured in monetary terms, captured by levels of income or consumption per capita or per household. The report from the World Bank reveals 1.22 billion people from developing countries on the global lived on less than $1.25 a day in 2010.Currently, some 1 billion people will still live in poverty with income level below $1.25 for a day. In some developing countries such as Eastern Asia and South Eastern Asia have met the targets of halving the extreme poverty rate however

lack of income still an acute problem. In Sub Saharan Africa and Southern Asia still lag behind. In 2010 one third of the world 1.2 billion extreme poverty lived in India alone (UN, 2014).

iv. Mortality and Morbidity

Morbidity refers to the state of being diseased or unhealthy within the population and Mortality is the term used for the number of people who died within the population. It is estimated that 57 million deaths occurred in the world during 2008; 36 million (63%) were due to Non Communicable Diseases (NCDs) especially cardiovascular diseases, diabetes, cancer and chronic respiratory diseases. Nearly 80% of these deaths (29 million) occurred in low- and middle-income countries. NCDs are the most frequent causes of death in most countries in the Americas, the Eastern Mediterranean, Europe, South-East Asia, and the Western Pacific. In the African Region, there are still more deaths from infectious diseases than NCDs. World Health Organisation (WHO) projections show that deaths caused by non-communicable diseases estimated to increase by 15% globally between 2010 and 2020 (to 44 million deaths). The greatest increases will be in regions of Africa, South-East Asia and the Eastern Mediterranean, where they will increase by over 20%. In the African Region, non-communicable diseases will cause around 3.9 million deaths by 2020.

The regions that are projected to have the greatest total number of NCD deaths in 2020 are South East Asia with an estimate of 10.4 million deaths and the Western Pacific with an estimate of 12.3 million deaths (UN, 2012).

v. Inadequate Housing and Homelessness

Inadequate housing and homelessness are almost numerous in the cities and the countryside across the planet. It is estimated that over a billion people are not adequately housed. Millions around the world live in life- or health threatening conditions, in overcrowded slums and informal settlements. Further millions are forcibly evicted, or threatened with forced eviction, from their homes every year. In today's world, some 100 million persons are homeless and more than a billion are

inadequately housed. According to the estimates of the United Nations, 3 billion persons will be living in slums in 2050. Also, 100 million slum dwellers by 2020, and reduce by half the proportion of persons who have no access to potable water by 2015. Most of these persons live in countries of the South, but no continent is, nor will be, spared (UN-Habitant, 2007).

Inadequate housing is considered as an indicator of poverty if it fails to meet the following criteria as proposed by UN.

- Legal security of tenure, including protection against forced eviction;
- Availability of services, materials, facilities and infrastructure, including access to safe drinking water and sanitation.
- Affordability, including for the poorest, through housing subsidies, protection against unreasonable rent levels or rent increases.
- habitability, including protection from cold, damp, heat, rain, wind and disease vectors;
- Accessibility for disadvantaged groups, including to the elderly, children, the physically disabled, the terminally ill and victims of natural disasters.
- Location, far from polluted sites or pollution sources but near to health-care services, schools, child-care centers and other social facilities.

vi. Social Discrimination and Exclusion

Social discrimination and exclusion is characterised by lack of participation in decision making and in civil, social and cultural life. It occurs in all countries. Mass of poverty in many developing countries, pockets of poverty amid wealth in developed countries, loss of livelihood as a result of economic recession, sudden poverty as a result of disaster or conflicts, the poverty of low-wage workers, and the utter destitution of people who fall outside family support systems, social institutions and safety nets.

In addition, Shyamsundar (2002) asserts that it is increasingly accepted that environmental factors are a significant determinant of health and illness in poor countries. Health outcomes that are a result of environmental conditions are

classified under the category of *environmental health*. While no standard definition of environmental health exists, a description used in a recent World Bank publication (2000) *environmental health* refers to those aspects of human health, including quality of life, that are determined by physical, biological, social, and psychological factors in the environment. The environmental health risks fall into two broad categories (World Bank, 2000):

i. Traditional hazards related to poverty and lack of development, such as lack of safe water, inadequate sanitation and waste disposal, indoor air pollution, and vector-borne diseases.
ii. Modern hazards such as urban air pollution and exposure to agro- industrial chemicals and waste that are caused by development that lack environmental safeguards.

The global evidence suggests that the two most important ways in which environmental quality has a negative impact on the health of the poor is through water and indoor air pollution. Respiratory infections and diarrheal diseases are the two biggest causes of death among the poorest 20 percent of the world's countries as ranked by national GDP per capita (Gwatkin *et al.,* 1999). Water pollution is a key source of a number of diseases such as diarrhea, malaria, and cholera. Air pollution is another major reason for concern because of its contribution to respiratory tract infections.

2.6.2 Poverty Indicators in Tanzania

Poverty indicators may differ according to how poverty is defined. The indicators of poverty in this study are explained by URT (1999) to be the areas of food security; income and production; education; health status; water and sanitation; health services; nutrition status; transport and communication; housing; environment; household and family relations; energy; empowerment and participation; and tradition and norms. The poverty indicators above reflect the majority poverty situation of Tanzanians. Table 2.1 shows the indicators of poverty in Tanzania.

Table 2.1: A list of Poverty and Welfare Indicators in Tanzania from the Most to the Least Important

Items	Indicators
Food and Security	% of population who are unable to get 2 meals a day and 3 meals a day for children; % of households with food insecurity; Food security at district level; % of villages/wards with food shortage**;** Average acreage cultivated land per household; % of agricultural households using hand hoe, oxen drawn implements, tractor
Income and Production	Employment rate; all, youth, women; % of population with access to financial facilities for savings and credit (by gender); % of population below absolute poverty line; % of population below the poverty line of US$ a day; Income distribution: % of share of income/consumption of the lowest 20% of the population; Gini coefficients; GDP per capita; Rate of inflation; % of households spending 50% or more of income on food by urban and rural
Education	% of illiterate and literate population by gender; Primary school gross enrolment rate (GER) by gender; Primary school dropouts rates by cause and gender; Secondary school gross enrolment ratio by gender; Vocational training school gross enrolment ratio by type and gender; Mean years of schooling by gender; Mean age enrolment for primary school, by gender; Pupil/teacher ratio (primary school); Pupil/teacher ratio (secondary school), % of household consumption expenditure for education
Health status	Infant mortality rate (IMR); Under 5 mortality rate (U5MR), by gender; % of deaths by causes by gender of all age groups and children under 5; Incidence of top 10 diseases by gender: all age groups and children under 5; Incidence of HIV/AIDS; Life expectancy, by gender; Crude birth rate (CBR); Crude death rate (CDR); % of disable people by type, gender and district
Water and Sanitation	% of households with access to an adequate amount of safe drinking water within 400 metres' % of urban people with toilet facility and access to toilet facility; % of urban households with access to disposal facility; % of urban households with access to sewage system and cesspool emptying; % of population contributing to water services
Health Service	% of population with access to health care; Population per dispensary; % of deliveries attended by trained attendant or other health personnel; % of population with access to reproductive health services by gender; % of children under 1 year fully immunized, by gender; % of pregnant women immunized against tetanus; % of household consumption expenditure for health services
Nutrition Status	% of under five children with malnutrition, by gender and weight for age (WFA): severe and moderate; % of infants with low birth weights (LBW)
Transport and Communication	% of villages accessible by road, railway or boat throughout the year; % of population with access to transport: bicycle, ox-driven carts, motor cycle and car, by gender; Number of people owning a radio per 1,000 population, by gender; Number of newspaper circulation y 1,000 population; Number of post offices per 100,000 population; Number of telephones per 1,000 population
Housing	% of households living in temporary houses, by male and female headship; % of urban population living in squatter areas, by gender; Average number of persons sleeping room

Items	Indicators
Environment	Deforestation rate; Number of reported incidences of illegal fishing practices, including dynamite fishing in coastal regions; Number of livestock per square kilometer (stocking rate) in pastoral regions
Household and family relations	Economic dependency: Number of household members depending on one working household member by gender; Average household size, by gender in male and female headed households
Energy	Ratio of working hours between men and women; % of female and male headed households; % of population 15+ years drinking alcohol, by gender; Number of children in child labour; Number of children in difficult circumstances, by type example Orphans and street children; % of households using firewood, charcoal, kerosene, gas and electricity
Empowerment and Participation	% of women participating in decision making at the household level; % of men and women participating in decision making organs at the village level; Participation of villages in decision making at local and central government; Participation of women in decision making positions and professional economic activities; % of men and women not participating in any social and economic group;
Tradition and norms	The extent to which traditional beliefs influence; food use, land utilisation, time use, investment, gender discrimination in the district/division/ward by scoring 1-5 where; 1= None, 2= Partly, 3= Average, 4= Yes, 5= To a large extent.

Source: URT (1999)

2.7 Poverty Measurements

i. Poverty Line

Donor community and policy makers devoting their efforts in reducing poverty established bench markers and monitor able indicators to assess the progress towards the target objectives. Poverty measures have been used to monitor the progress towards the objectives. In tracking progress for the MDG's, poverty in the developing world is measured by a standard representing the poverty lines found among the poorest countries of the world. That line was first set at USD 1.00 a day in 1985 prices. Although the term "dollar a day" still features popular discussion the line is now USD 1.25 a day in 2005 prices, which is the average of the poverty lines found in the poorest 15 countries in terms of per capita consumption (Chen and Ravallion, 2008).

The most used measures are suggested by Foster (2010). Other measures explained by Fields (1980) and Ahluwalia (1974) are The Sen Index and The Ahluwalia-Chenery Index.

ii. The Headcount Index

It is a poverty measure which provides the proportions of the population whose per capital consumption expenditure is less than the poverty line. The measure literally counts heads allowing policy makers and researchers to track the most immediate dimension of the human scale of poverty.

The headcount is calculated by comparing the income *yi* of each household poverty line z. The index i=I...M, where M is the total number of households in the sample). Concretely, an indicator variable is constructed for each house hold, taking the value I when income falls below the poverty line or if income is greater

$I(y, z) = 1$ if $yi \leq z$

$I(y, z) = 0$ if $yi > z$

However, the measures pose some limitations since it is sensitive to distribute below the poverty line since the measure fail to distinguish between the mild and the extreme poor.

iii. The Poverty Gap Index

Boateng (1990) as cited from Chen and Ravallion (2008) explain that the measure is based on the aggregate poverty line. It accounts for the average shortfall of income of the poor from the poverty line and is the most recommended poverty indicator. The poverty measure the amount of money by which each individual falls below the poverty line. It matters here whether income and poverty line are measured on a per capital basis or whether they have been put into adult equivalent terms or adjusted for scale economies. The measure reflects the depth of poverty as it drawback its insensitivity to the severity of poverty.

iv. The Square Poverty Gap (Poverty Severity)

It is a measure that takes into account inequality among the poor. It is weighted to sum of poverty gap as proportion of poverty line. Under this measure, poverty effect dollar gained by a poor and moderately poor will be different.

v. The Sen Index

The proponents of absolute poverty approach suggests that the extent of poverty falls: when the proportion of income recipients with income below the poverty line falls; average income of those below the poverty line rises and for the same number below the poverty line and the same average income among them, intra income decline (Fields,1980).

vi. The Ahluwalia-Chenery Index

The measure integrates welfare considerations into analyses of development. The measure was developed to weigh index of income growth. Ahluwalia and Chenery (1974) proposed three weighting schemes including GNP which uses the groups' share in total income, the second weighing scheme is the population weights (the equal percentage weighs which assigns each group the same welfare weight and the lastly is the poverty weights which gives greater weight to income gains of poorer group in which extent and direction of divergence between the weighted index of income growth and the growth rate of income indicates the extent and the direction to which growth is distributionally biased.

2.8 Poverty Reduction in Tanzania

Poverty reduction in Tanzania focused on different initiatives policies and strategies which were implemented in different periods as follow;

2.8.1 Policies and Strategies for Poverty Reduction in Tanzania

Poverty reduction started immediately after the Second World War insisting on heavy investments in physical capital and infrastructure as the basic means of development. Later in 1970s the focus was on health and education which were

seemed to be more important. Soon after independence in 1961 the government identified poverty, ignorance and diseases as big enemies. In 1967 the government adopted Arusha declaration among its objectives, the declaration aimed in reducing poverty.

The objectives were geared toward the following initiatives including;

Agriculture based initiatives which were backed up by slogan such as “Uhuru na Kazi” (Freedom and work) and “Uhuru ni Kazi” (Freedom is work) which aimed to increase rural incomes and ensure food security. In 1976 the government launched a policy towards employment and income generation to alleviate urban and rural poverty which required every able urban person to work "Operation Kila Mtu Afanye Kazi." This means every person should work (Mponzi et *al.,* 1999).

Social based initiatives: The government implemented various policies in the social services sectors for promoting education, health and use of clean water. These include Universal Primary Education (UPE), Education for self-reliance, Adult Literacy Education, “Mtu ni Afya”, Primary Health Care for All and “Maji ni Uhai.” (Water is life) These slogans aimed reducing poverty especially in rural areas where poverty level was high (Mponzi *et al,* 1999).

Economic reforms based interventions; Following the economic crisis in 1970/80s Tanzania took measures for economic survival which were being addressed by National Economic Survival Programmes (NESP), Structural Adjustment Programmes (SAP and later Economic Revival Programmes (ERP I and II). In 1983 the Human Resource Deployment Act ("Sera ya Nguvu Kazi") was enacted in order to find solutions on the question of unemployment in urban areas. The policy recognized small-scale operators and other informal sector activities as conducting legitimate business and issued them business licenses on a term Nguvu Kazi Licenses (Mponzi *et al.,* 1999).

2.8.2 Strategies for Poverty Eradication from Mid 1990s

Tanzania reached its turning point after participating in the Social Summit in Copenhagen in1995.The government declared war against poverty and resolved to implement the International Declaration for Eradicating Poverty signed on November 3, 1998 where Tanzania declare to eradicate poverty by 50 per cent by the year 2010 and by 100 percent by the year 2025 in rural and urban areas, the government aimed achieving great percentage of Tanzanians to live a decent life. The implementation of this government commitment resulted into the establishment of Poverty Eradication Initiative Programme under the Vice Presidents Office in 1995(Mponzi *et al.,* 1999).

i. The National Poverty Eradication Strategy (NPES) of 1998-2005

NPES was a national mid-term framework for poverty eradication launched in June 1998. The long-term goal was to provide a framework to guide poverty eradication initiatives in order to reduce absolute poverty by 50% by the year 2010 and eradicate absolute poverty by the year 2025. NPES among of its objectives was improved economic growth 8-10% and people's income, provision of gender sensitive education, water and sanitation, health and nutrition, employment, housing (achieving decent housing for all) and improving infrastructure (URT, 1998).

ii. Poverty Reduction Strategy Paper (PRSP) 1999-2000

PRSP was medium-term strategy of poverty reduction, developed through broad consultation with national and international stakeholders, in the context of the enhanced Highly Indebted Poor Countries (HIPC). The objective and targets of the initiative was Tanzania to be able to qualify for HIPC initiative. Through PRSP the government intention was to seek fuller representation of the poor and other stakeholders in the implementation, monitoring, and evaluation of the poverty strategy, and in subsequent revisions of the PRSP. On the side of achievement Tanzania qualified in 2000 and started to benefit from Heavily Indebted Poor Countries (HIPC) initiatives in 2001(URT, 1998).

iii. The Poverty Eradication Initiative Programme (PEIP) 1999

PEIP was another poverty eradication effort established as a coordinating body with the aim of coordinating and monitoring poverty eradication programmes in the country. The objectives of the programme are Producing Annual Poverty Eradication Reports indicating the implementation and attainment of the poverty eradication goals for the year and establish a data base and poverty indicators.

iv. Poverty Reduction Strategy 2001-2004

This was a first three year generation for poverty reduction. The objectives and targets focus on priority areas of basic education, primary health, water, rural roads, agricultural research and extension judiciary and HIV. The implementation of the strategy fall under the following phases of implementation;

v. National Strategy for Growth and Reduction of Poverty (NSGRP I) 2005-2010, (NSGRP II) 2005-2010

NSGRP ran from 2005 to 2010 in which the main goal was to reduce poverty and to archive high and sustained economic growth in a comprehensive outcome-based approach. The first cluster of NSGRP aimed at growth and reduction of income poverty, enhance quality of life and social well being and promote governance and accountability. Furthermore, it targeted an economic growth rate of 6-8 percent annum from a base of 6.7 percent in 2004.Reducing basic need poverty from 25.8 percent in 2000/2001 to 12.9 percent in rural areas and from 38.6 2000/2001 to 24 percent in rural areas by 2010. Apart from the preceded strategies this strategy adopted a five years timeframe to allow sustainable effort of resources mobilisation, implementation and evaluation of poverty impact (URT, 2005).

Despite the interesting targets of NSGRP 1 there were noted little progress which reveals the failure of the strategy in materialising its objectives in the areas of rural electrification, agriculture, income poverty, youth, employment and gender disparities across social groups in the years (1991/92, 2000/01 and 2007).

vi. Five years Development Plan 2011/12 to 2015/16

A long NGPRS the government launched in 2011 launched its five year Development Plan from 2011/12 to 2015/16 as an implementation tool of the

country's development agenda articulated in the Tanzania Development Vision 2025.The objectives of the plan is to speed up realisation of development goals as stipulated in the vision 2025.

Other initiatives to alleviate poverty in rural areas are such; Rural Youth Training and Employment(RYLE),Promoting of Rural Initiatives and development enterprises LTD (PRIDE),National Enterprises development Fund and Property and Business Formalisation Programme PBFB 2004 (Wangwe , 1996).

2.9 Indicators of Poverty Reduction

Millennium Development Goals has accelerated progress in the reduction of poverty. In the case of Sub-Saharan Africa in 2002, economic growth was low; the poverty rate was high and not falling; and disease burdens were enormous and increasing in the case of malaria and HIV/AIDS. The MDGs and other poverty reducing initiatives played important roles in helping to reverse these adverse trends. Poverty during the period 1990-1999, the proportion of the population living on less than 1.25 dollars a day was rising in Africa. It fell at a rate of 1.6 percent per annum during 1999-2010.The rate of Mortality under -five years declined more than doubled from 1.4 percent per annum during 1990-2000 to 3.1 percent per annum during 2000-2010. Moreover, Malaria deaths which were rising dramatically during 1990-2000, it started to decline to an estimated rate of 2.1 % per annum during 2010. Maternal Mortality declined more than doubled from 1.4 % per annum to 3.8 % per annum after 2000 Real GDP. The economic growth rate per annum more than doubled from 2.3 percent per annum to 5.7 percent per annum (Friedman, 2013).Table 2.2 summarises the information about accelerated poverty reduction in Sub-Saharan Africa.

Table 2.2: Accelerated Poverty Reduction in Sub-Saharan Africa: key indicators

ITEMS	YEAR			% ANNUAL RATE OF IMPROVEMENT	%ANNUAL RATE OF IMPROVEMENT
	1990	2000	2010		
Poverty Rate Proportion of Population living on less than $1.25 a day)	56.5	58.0	48.4	-0.3	1.6
Under-5 Mortality Rate	178	154	109	1.4	3.1
Malaria Death, total(000s)	832	1,401	1,134	-5.3	2.1
Maternal Mortality Rate	850	740	500	1.4	3.8
Real GDP (1990=100)	100	126	219	2.3	5.7

Source: Friedman, 2013

Note: the first four indicators are official MDG indicators, while Real GDP growth is not an MDG indicator but is an important contributor to poverty reduction and other goals.

2.10 Distribution of Poverty in Tanzania

Poverty is not uniformly distributed geographically or within the population. Distinctions can be noted in rural urban poverty situations, gender and agro – economic zones. The surveys it is estimated that more than 70% of Tanzanians are poor. There is an indication that poverty is more prevalent in rural areas relative to urban areas. Almost 60% of the rural population is poor compared to the urban population. The National Poverty Profile explains the distribution of poverty in Tanzania (URT, 2012).

2.10.1 Poverty in Non-income Dimension

For poverty monitoring, the government of Tanzania defines six elements of non-income include; education, survival, nutrition, safe water, social satisfaction and vulnerability.

i. Access to Basic Infrastructure

In terms of piped water, in both urban and rural areas, the proportion of the poor with access was lower than the proportion of the non-poor with access in 2010/12. There are also regional differences among the poor in terms of access to piped water. While 75.4% of the extreme poor and 69% of the poor have access to piped water in Dar es Salaam, the share of the households with access to piped water is 23.4% for the extreme poor, 24% for the poor, and 30.3% for the non-poor in the rural areas. Improvement in the utilisation of piped water also differed by region. While the share of poor and extreme poor households with access to piped water in other urban areas increased, it decreased in Dar es Salaam and the rural areas (URT, 2012).

There is a huge regional gap and gap between the poor and the non-poor in terms of access to electricity. In Dar es Salaam, 60.5% of the non-poor had access to electricity while figures for the poor and the extreme poor were 44.4% and 49.7%, respectively. In the other urban areas, however, only 33.6% of the non-poor and 10% of the extreme poor had access to electricity. In rural areas, only 2.1% of the non-poor had access to electricity and for the extreme poor this number is 0.7% (URT, 2012).

ii. Employment

Looking at the poverty ratios by the main activity of the head of household, the percentage of households below the poverty line was significantly high in cases where the head of household does not earn any income. According to HBS 2010/11, the highest poverty headcount ratio was 57.4% for households headed by unpaid family helpers in business and the second highest was 45.1% in cases where the

heads of households are not economically active because of studying, illness and other reasons. Among the households with a head of household earning any income, the poverty ratio for the households depending on farming, livestock and fishing was the highest, accounting for more than 40%. According to Integrated Labour Force Survey (2000/01-06), the average monthly income for agricultural workers was 21,291 TShs for self-employed, 15,234 TShs for wage workers, and 13,468 TShs for traditional farmers, which is the lowest level of income.

iii. Education

In Tanzania, adult educational attainment has improved due the percentage of adults who completed upper primary education increasing from 51% to 54%. However, deterioration in the educational attainment of the poor, in particular the extreme poor, brought about a larger gap between the poor and the non-poor in educational level. The primary education enrolment rate for the country was 66.3% for the non-poor, 59.2% for the poor and 50.1% for the extreme poor in 2009 (URT 2011). The completion rate for primary education of the poor is very low since more or less 90% of poor students drop out from schools. In terms of secondary education, the net attendance ratio is low in the country. The majority of attendees of secondary education are from urban and from the upper 20% income group while more or less 1% of poor students attend. This fact indicates that, in Tanzania, limited numbers of students have access to secondary school.

iv. Health

According to the *Demographic and Health Survey 2004/0005* (DHS 2004/05), in terms of infant and child mortality rates by income quintile, the rate for lower quintiles is higher than those for the upper quintile. In particular, the second lowest quintile has the highest infant and under-5 mortality rates, which are 97 and 156 per 1000 live birth, respectively. Since the first and the second quintiles represent poor households and the third quintile is also considered as a low income group near the poverty line, the poor suffer from a higher infant and child mortality rate than the non-poor. There is a significant difference in infant mortality according to the level of the mothers' educational attainment: while the infant mortality rate is 101 per

1000 live births in the case of mothers without primary education, the rate is 56 per 1000 live births in the case of mothers with secondary education or higher. It can be assumed that education attainment affects the level of household income, and the higher infant mortality rate can be attributed to a lack of appropriate knowledge of delivery and child care in the case of mothers without education.

2.10.2 Poverty at Regional Level

The profile also attempts to analyse the regional level of socio-economic development status measured by the Human Development Index (HDI) as well as the relationship between income and non-income poverty measured by the Human Poverty Index (HPI).

Mara has the highest poverty headcount ratio in the country at 50% in FY 2011/12. The HDI and HPI of the region were 0.477 and 40.4, respectively. The region ranked 13th in HDI among the regions and 15th in HPI, the region has a relatively lower level of socio-economic development and serious non-income poverty. Furthermore, income and health parameters, which are components of HDI, and the health and sanitation parameters for HPI were lower than the national standards. Therefore, in addition to income poverty, underdevelopment of health and sanitation presumably affects non-income poverty in Mara.

Moreover, Singida population was estimated at 49% below the national poverty line. HDI was 0.468, which ranked 9th. The HPI of the region was 30.3 which was 5th.Thus, although Singida confronts serious income poverty, the degree of non-economic poverty was relatively low since the socio-economic development status of the region was not below the country level.

On the other side, Rukwa ranked at the bottom by HDI, the region did not suffer excessively from poverty in spite of backwardness in socio-economic development. While the poverty incidence of the region was 36%, which was almost same level as the national poverty incidence, all the parameters for HDI were below the national standards. The HPI of the region was 39.3, ranking 13th in the country. Although the parameters of HPI were below the country level, the region has a high percentage of

population without access to safe water, at 65%. Non-income poverty and sanitation, was rather more severe than income poverty in the region.

Mwanza and Shinyanga, where the poverty incidence was over 40%, face underdevelopment and serious non-income poverty. Those regions are ranked 19th and 17th in the HDI ranking while their HPI was also low level. All elements of HPI in Mwanza were below the national standards, and Shinyanga had an extremely low level of development in education and health. In Morogoro poverty was estimated at the ratio of 16.9 in household monthly consumption while 26% of the people in Mvomero live below the poverty line.

2.11 Challenges of Poverty Reduction

The challenges facing poverty reduction in Tanzania are explained in NSGRP 11 by URT (2010) and in National Poverty Eradication Strategy URT (1998) these includes people's participation and their ability to address it, lack of accountability and transparency, the rapid growth in population and rural-urban migration, poor economic infrastructure and the devastating nature of HIV/AIDS. The challenges are explained;

i. Dependency Syndrome

The dependency syndrome is prevalent among Tanzania society. People depend on the Government for their development while the government has been relying on donor assistance to finance its development programmes. The dependency syndrome is widespread not only in rural areas and in some urban areas. Dependency syndrome is a major challenge to poverty eradication initiatives as it requires radical changes in attitudes and behaviour and people's responsibilities for their own well being and social progress. The prime actors in poverty reduction are the people themselves and the government plays complementary efforts (URT, 2010).

ii. Accountability and Transparency

Good administration and management of resources are vital in poverty eradication. This requires a coherent system of accountability and transparency as well as

behavioural integrity. The government at the local level has some weaknesses in delivering services directly to the people since transparent and accountability lacks on community project implementations.

iii. Population

The population of Tanzania is estimated to be growing at a rate of 3% per annum. The rate of population growth is unsustainable by the current rate of economic growth of 6.7% per annum affect the delivery of social services and greatly contributing to environmental degradation. Sustained efforts are required to control the rate of growth of population including promoting reproductive health systems and provision of family planning services as provided in the National Population Policy of Tanzania.

iv. Poor Transportation System

In Tanzania many parts of the country have limited or no reliable truck and access roads which can be used to transport crops from production points to the markets.

v. Insufficient Number of Extension Workers and Change Agent at the Grassroots Level

Poverty eradication requires existence of sufficient numbers of extension staff and change agents at the grassroots level. These include agricultural extension works, primary school teachers, community development works and health workers. The current numbers of extension works is not only insufficient but their contribution and expertise is not sufficiently acknowledged by the society.

vi. Participation and Social Mobilisation

The success of poverty eradication initiatives requires direct involvement of the poor at all stages of planning, implementation, monitoring and evaluation. The effort to engage the poor is done as peripheral agents in the development process.

2.12 Theories of Poverty

Brandshaw (2006) pointed out five theories of poverty. The theory of poverty helps to understand the causes of poverty and set a foundation for better understanding of the ant-poverty programmes and strategies. The following are five theoretical perspectives of poverty.

2.12.1 Individual Theories of Poverty

The theory is large and multifaceted set of explanations that focus on the individual as responsible for creating their own poverty situation. Conservative theoreticians blame individuals plagued by poverty for being their own creators of problems. In this regards, theoreticians argues with harder working and better choices the poor could have remedy their problems (Graham and Silverman,2000). Besides, individual theory of poverty ascribe poverty is due to a lack of persons generic qualities like intelligence that are not easily reversed.

Kumar and Ayuthya (1996) studied about poverty and reveals the causes of poverty in Papua New Guinea were the result of individual laziness, incompetence and bad choices as the result people are trapped in poverty as a punishment. Thus, to revamp from poverty of this nature ant-poverty programme should deal with programme aiming to remedy poverty based on individual deficiency theories.

2.12.2 Cultural Theories of Poverty

This theory suggests, poverty transformed over generations due to a set of beliefs, values, and skills that are socially generated but individually inherited (Mauder, 1991 cited from Narayan, 1997). In this theory the individuals are not supposed to be blamed because they are the poverty victims of their dysfunctional subculture or culture (Brandshaw, 1986 cited from Bagachwa, 1995). Sociologist such as Oscar Lewis argues that, when the culture of poverty has come into existence it tends to perpetuate itself.

A study in Sri Lanka done by Karmakar, Majumder and Dasgupta (1996) reveals poverty was prevalent in certain subculture of poor people and poor regions in Sri

Lanka. Poor people in poor regions develop a shared set of believes, value and norms for behaviour that are separate but embedded in the culture of the main society. Thus, ant poverty programme should focus from a community development perspective to help change the culture.

2.12.3 Geographical Theories of Poverty

The theory is based on the focus that poverty is serious in most areas. Rural poverty, third world poverty, ghetto poverty, southern poverty and other framing of the problem represent a spatial characterisation of poverty that exists separate from other theories. A geographical theory of poverty suggests a need to be directed to solving the key dynamics that lead to decline in depressed areas. Instead of focusing on individuals, businesses, governments, welfare systems, or cultural processes, the geographical theory directs community developers to look at places and the processes by which they can become self-sustaining (Narayan, 1997).

2.12.4 Structural Theories of Poverty

The theory states poverty basing on the explanations that, poverty is a source of economic, political and social distortions of systems which causes people to have limited opportunities and resources to archive income and well being. Such mentioned structural systems become barriers preventing the poor from access and accomplishment in key social institutions not limited but like education, job opportunities, housing, political representation and safety net. The theory adds that, people are obstructed in achieving their potential by other criteria but not limited criteria such as race, gender and age (Maliyamkono, 2006).

Jorgensen and Abane (1999) in their study made a recommendation in race discrimination in highly paying jobs opportunities leading large number of individuals being unemployed accelerating to the increase of poverty in educated indigenous during apartheid system. Thus, to remedy poverty with this nature ant-poverty programme should consider problems of poverty as the system rather than the poor themselves. Community development response should be to change the

system through the policy process, federal and social policies which can be adjusted to accomplish poverty reduction (Bradshaw, 2006).

2.12.5 Cumulative Theories of Poverty

The theory looks poverty as cumulative and cyclical interdependencies. The theory is complex and some extent built on the components of each of the other theories. It considers an individual and their community as caught in a spiral of opportunity and problems. When problems dominate they close other opportunities and create a cumulative set of problems that make any effect response. Steps taken to break the cycle of poverty are necessary complex, but they are better solution to poverty than single factor efforts in revamping poverty the ant-poverty programmes in this theory embeds in form of the community development corporations, local neighborhood revitalization projects and other efforts linking grass roots problem solving with diversified organisational management (Graham and Silverman, 2000). Table 2.3 summarises key issue/points of each theory.

Table 2.3: Summary of Key Issues/Points on Each Theory

S/N	Theory	Key Issues
1	Individual Theory of poverty	• Individual responsible for their poverty situation • Hard working and better choices.
2	Cultural Theory of Poverty	• Poverty transformed over generations due to a set of beliefs, values and skills generated but individually inherited. • Poor are the victims of culture.
3	Geographical Theory of Poverty	• Poverty differs with geographical areas • Geographical factors of a particular place cause poverty • People and institution lack power to claim redistribution • Community developers should look at places and processes which can facilitate the poor to be self-sustaining.
4	Structural Theory of Poverty	• Poverty is a result of arrangement of economic and political system • System reforms though social policies • Gender, race and age obstruct people to achieve potentials
5	Cumulative Theories of Poverty	• Poverty is a result of Individual and community • Opportunities are closed by problem domination. • Spiral of poverty, problems for individuals are interdependent and strongly linked to community deficiencies.

Source: Author's Construct, 2015

2.13 Theory of Poverty Applicable to the Study

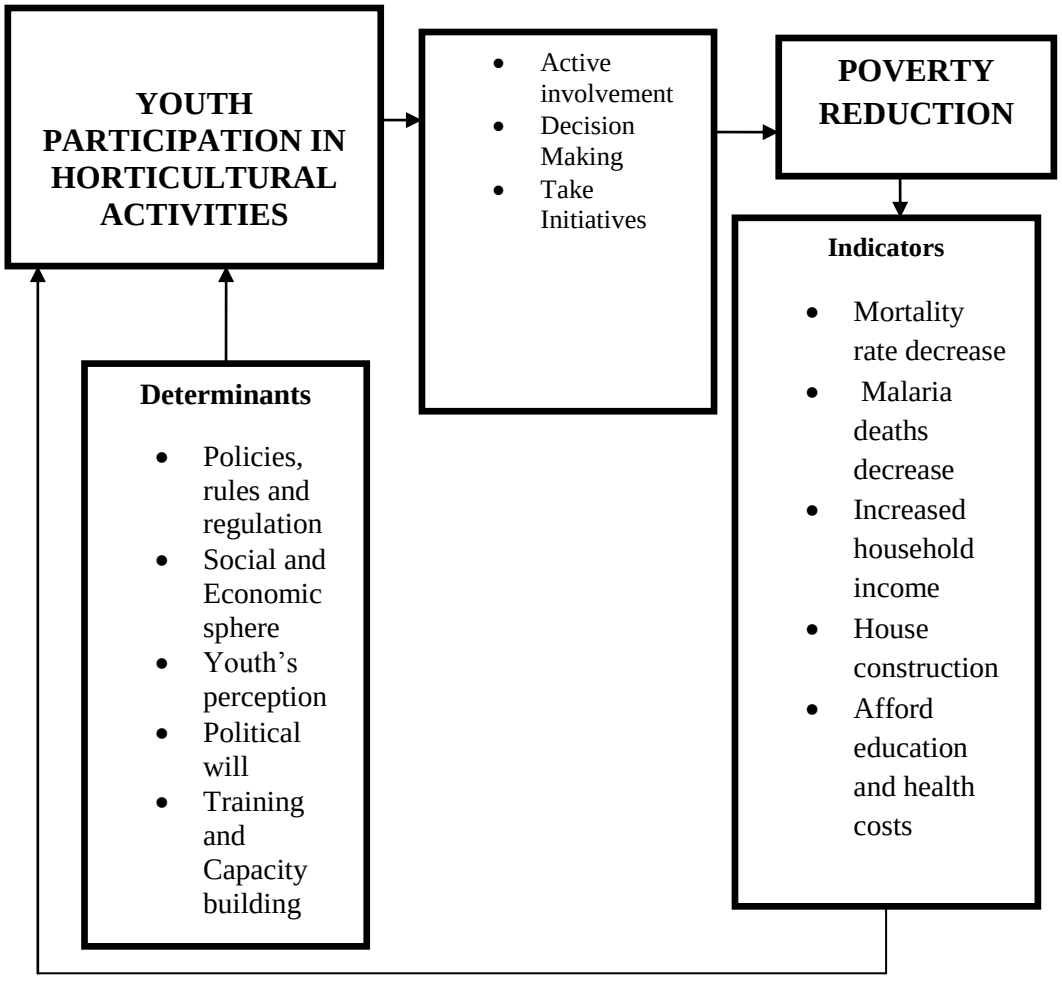
The theory applicable to this study is structural theory of poverty. The theory holds that poverty is a result of distortions of arrangement of economic, political and social system which cause people to have limited opportunities. Thus, reforms can be achieved through social policies. Structural theory is relevant to this study because it emphasises reforming the system through social policies. For the case of this study, youth participation in horticulture is viewed as the source of coming out of poverty. The link between the theory and the study is based on the key point that policies can facilitate youth participation in horticultural activities and poverty reduction. The study considers that youth participation in horticultural activities will manage to improve house hold income and living standards and finally come out of poverty with the support and redness of policies, rules, regulation and social, political and economic spheres.

2.14 Conceptual framework

Figure 2.1 presents the conceptual framework adopted in conducting the study. The link between horticulture and poverty reduction dates back in 1920s. Earlier studies on poverty reduction cemented a foundation for empirical and theoretical development. Mukaras (2003) stipulates that poverty can be minimized through the strengthening of small and medium activities.

The conceptual framework starts with an idea that youth participation in horticultural activities which means active involvement, decision making and take initiatives can lead to poverty reduction. Poverty reduction is indicated by mortality rates decrease, malaria deaths decrease, increased household income, house construction and ability to afford health and education costs. The achievement of poverty reduction depend support from favorable operation environment which act as a catalyst in poverty reduction. These include policies, rule and regulations, social and economic sphere. Others are political will, youth perception, training and capacity building.

Figure 2.1: Conceptual Framework



Source: Author's construct, 2015

2.15 Definitions of Variables

(i) Youth Participation in Horticultural activities

Youth Participation is defined as involvement of youth in horticultural activities to meet genuine needs through agriculture, with opportunity for planning or decision-making affecting others, in an activity whose impact or consequences extends to others – outside or beyond the youth participants themselves (USAID, 2008). Also, DFID, (2010) defined it as the active, informed and voluntary involvement in activities relating to horticulture, a decision that affect the life of youth and their communities both locally and globally.

(ii) Policies, Rules and Regulation

Government policy, a policy defined as a plan or course of action, as of a government, political party, or business, intended to influence and determine decisions, actions, and other matters or (Government, Politics & Diplomacy) a plan of action adopted or pursued by an individual, government, party, business (Sprinz, 2009). While rules and regulations are set of explicitly or understood regulations or principles governing conduct or procedure within a particular area of activity

(iii) Social and Economic Sphere

Social and economic sphere is defined as the relative position of a family or individual in a social structure, based on their access to scarce and valued resources such as education, wealth and health (Martin *et al,* 2010). Economic sphere is often related to the environmental assets, which are considered as natural capital which has both limited and fragile tendencies, social sphere is associated to any cultural forms, symbolic bonds and community infrastructures, called social capital upon which an edifice of economic performance is made (Situngkir, 2010).

(iv) Youth's Perception

This refers to act or faculty of the youth to apprehend by means of the senses or of the mind, cognitive and understanding. It is about the process or a state of being aware of something. Further explanation stress that youth's perception are rooted in a belief or opinion often held by many people and based on how things seems to be in a certain context (Ahmad *et al.*, 2011). Perception is said to be strongly influenced by the negative portrayal of young people in the media (Martin *et al*, 2010).

(v) Political Will

This refers to collective amount of political benefits and costs that would result from the passage of any given law a toll to make possible measurement and observation – based analysis (Raile, 2010). Also, political will can be defined as the determination of an individual political actor to do any things that will produce desired outcomes.

The definition is enriched by the fact that political will should encompass administrative instruments to achieve an outcome and capacity to envision how things might be different (Hammergren, 1998)

(vi) Training and Capacity Building

This is an approach which focuses to foster a clear understanding among stakeholders. This can be achieved where stakeholders themselves are involved in the assessment and contribute to the planning of training. The emphasis is on giving priority in capacity building or training since they are likely to be more sensitive to domestic needs. While international actors play an advisory role the governments enforce laws and civil society actors build up their capacity (Mallick, 2013). Also, Eade (1999) adds by saying that capacity building and training is strengthening people's capacity to determine their own values and priorities and to organise themselves to act in the basis of development.

(vii) Willingness

Is an evaluating meaning that a person construct regarding whether behaviour that they classify as being of a certain type potentially satisfying or painful (Henry, 1993). In addition, Ajzen (2005) speculates that willingness involves quality or state of being prepared to do something.

(viii) Poverty Reduction

Poverty reduction is a term that describes the promotion of economic growth that will permanently lift as many people as possible over a poverty line. Poverty reduction includes, measures that are intended to rise, enabling the poor people to create wealth for themselves as a means for tackling current poverty and to end future poverty by focusing helping people in chronic poverty (Barder, 2009). In supporting the above definition Baker (1997), says poverty reduction links with promoting economic growth that benefits poor people, focusing on both pace and pattern of growth.

2.16 World Horticulture Outlook and Youth Horticulture in Tanzania

The business of horticulture is regarded to have stated in the 17th Century. It became dominant in production of bean seeds and sold in Europe in 1950s.Perishable horticulture export started in the 1970s with the export to Europe. By the mid-1980s cut flower industry were established to other developing countries including in Tanzania followed by cutting industry of chrysanthemums. Recently, specialised investment in the propagation for hybrid vegetable seeds, higher value fruits, vegetables and cut flower is increasing. Horticulture is growing and averaging more than 10 % per annum in the country (HODECT, 2010).

There are substantial growth opportunities for horticulture business across domestic, regional and international markets for horticulture products. Global horticulture annual growth averaged 13 % in 2008. By 2010 the growth was 13.4 % in vegetables contributing USD billion 50,832,956, Cut flowers annual growth rate was 12.3 % contributing 18,022,452, Fruits 15.5 % contributing USD billion 79,470,032 and Spices growth rate of 20.8 % contributing USD billion 5,032,627(HODECT, 2010). The United States and Europe are the largest importers of horticultural produce. However, the highest growth markets for horticultural export include Russia, India, UAE and Turkey.

In Tanzania horticultural produce is a part of daily basis need in people's diet and income generation. Spices, flowers, vegetables and indigenous fruits have been cultivated especially in suited conducive climate in coastal zone (Dar es Salaam, Zanzibar, Morogoro and Pwani). Other potential areas for horticultural development exist in Arusha region, Mbeya, Central part of the country especially in some parts of Dodoma region and lake zones especially in Mwanza,Mara, Kagera (HODEC, 2010). Regarding youth involving in horticulture and agriculture is stated to be low. Youth in urban and rural areas regard agriculture the last job choice or old fashioned sector that can't generate income and suits non-educated. Despite the stereotype, even the youth involving in horticulture farming in fruits, vegetable and root crops lack better

farming techniques and hence can't capture big market opportunities outside Tanzania export (FANRAPAN, 2012).

Table 2.4: Important Horticultural production Regions in Tanzania

Zone	Region/District	Important Horticulture crop grown
Northen and NorthenEastern Highlands Zone	Arusha Kilimanjaro Tanga	Flowers, Temperate fruits and vegetable Flowers, Avocado, Bananas, Temperate fruits and vegetable Temperate fruits and vegetables Tropical fruits & spices (cardamom ,vegetables, mushroom)
Eastern Zone	Tanga (Rural), Coast Dar Es Salaam Morogoro	Tropical fruits Tropical fruits Tropical fruits and vegetables, mushroom Tropical & Temperate fruits and vegetables (include dessert bananas and onions) and spices (clove, ginger and turmeric
Central Zone	Dodoma	Grapes,Tomatoes and onion
Southern Highlands Zone	Iringa Mbeya	Temperate fruits, Tropical vegetables (tomatoes, onions etc.) Temperate and tropical fruits & vegetables (avocado, tomatoes, banana, citrus etc)
Lake Zone	Kagera Mwanza Mara(Tarime)	Vanilla, Banana Tropical vegetables (eggplant, cabbage etc.) Banana and Tropical vegetables
Western Zone	Kigoma	Tropical vegetables (onions, carrots) Spices (vanilla, turmeric, ginger, et

Source: URT (2002)

2.17 Branches of Horticulture

Horticulture is a field of wide scope which includes a great variety and diversity of crops, this science can be divided into different branches depending upon the crops it deals with (Naik and Thippesh, 2014). These branches are;

i. Pomology

This is concerned with fruit growing including the culture of all fruits and nuts. Grape cultivation and viticulture fall under this category of horticulture.

ii. Olericulture

This is a practice of growing vegetable mostly dealing with the culture of non – woody (herbaceous) plants or food.

iii. Floriculture

This type of horticulture deals primarily with the cultivation of herbaceous flowering plants and house plants.

iv. Ornamental Horticulture

It entails the growth of trees and shrubs for use in landscape design, and often with the design and maintenance of gardens, parks and recreational areas.

Other branches of horticulture explained by (Naik and Thippesh, 2014) are; *Plantation Crop Cultivation* which means cultivation of plants like coconut, arecanut, rubber, coffee and tea, *Spices Crops cultivation of spices plants* including but not limited tocardamom, pepper and nutmeg, *Post Harvest Technology*, this deals with post harvesting handling, grading, packing, storage processing, value addition, marketing of horticulture crops. The other branch explained is Plant propagation, a

branch of horticulture which deals with propagation of plants. The last is *Medicinal and aromatic Crops* which involves cultivation of medicinal and aromatic crops.

2.18 Participation of Youth in Horticulture and Poverty Reduction

Horticultural activities are locally implemented by only small number of youth in Tanzania due to shortage of modern ways in the industry. The reason has attributed youth to regard horticulture and agriculture in general as old fashion or a job for poor people. Youth has been interested in transportation sector in riding motor cycles to earn money "Bodaboda". In addition, technology has attracted youth from rural and urban areas to employ themselves or to be employed in financial services locally known as Tigo-Pesa, M-Pesa and Airtel -money.

The modern technology in mobile finance service is cited as the area the youth would want similar innovation applied in agriculture for them to practice as a potential career to make a living for their life improvement (FANRPAN, 2012).

2.18.1 Initiatives to Engage Youth in Horticulture

There are various initiatives to engage the youth in horticulture. FANRPAN (2012) in the reports organised by Tanzania Youth Environment Network (TAYEN) reports stipulates past efforts and currents efforts to engage the youth in horticulture under the umbrella of agriculture sector as follows ;

(1) Past Efforts to Engage Youth in Horticulture

The engagement of youth in horticulture in Tanzania was taught in schools purposely to impart agricultural knowledge to learners and inculcate in them positive attitude towards farming but also prepare them for a life in rural areas. Agriculture was taught as a subject in the period to enable youth secure and gain knowledge in agriculture as gainful employment. School agricultural programmes were stimulated by the introduction of Education for Self Reliance (ESF) in support of 1967 Arusha Declaration towards self reliance.

The introduction of agricultural education in primary and secondary schools was implemented along with establishment of school agricultural farms where youth were directly involved in farming activities like weeding, planting, gardening, livestock rearing and harvesting. Education on agriculture aimed at;

- Enabling the youth (students) to acquire agricultural knowledge and skills for use in agriculture production activities within school and villages
- Enable youth understand theoretical aspects of good farming technique with regard to soils, crops, livestock economics, farm tools, equipment and natural resources.

The initiatives made by government helped to expose young to dome form of agricultural education. In 1996 only 16.6% of primary school leavers joined form one, 21.2% form four leavers joined form five and 24, 2% of form six leavers joined local Universities.

The majority of school leavers, especially from primary school, remained in rural areas where farming is the most likely career option.

(2) Current Initiatives to Engage Youth in Horticulture

i. Agricultural Training Institutes and Capacity Building

Current efforts to engage the youth in horticulture are directly linked to efforts to encourage youth participate in agriculture. Despite the removal of agriculture as an examination subject in primary and secondary school curricula, the government established agricultural institute. Ministry of Agriculture Food Security and Cooperatives (MAFC) was responsible in the implementation. Agricultural training institutes include; Ministry of Agriculture Training Institute (MATI), Livestock Training Institute (LITI) and Moshi Cooperative College were established. These agricultural training institutes were responsible for updating knowledge and skills of farmers (including young farmers), extension staff and agricultural professionals.

LITIs and MATIs since then were established in many parts of the country and offer short and long term courses at certificate to diploma level in agricultural based programmes to equip farmers and stakeholders with better farming skills and agribusiness management. In late 1980s to 1990's LITIs and MATIs produced skilled agricultural extension staffs that were located in almost every district to provide technical support to smallholders (rural farmers) increase their agricultural productivity

ii. Agriculture Sector Development Strategy (ASDS)

Tanzania Agricultural Development Strategy of 2001 aimed at creating and enabling favorable environment for improving profitability through improved farms, incomes and rural poverty reduction in medium and long terms. Youth in the strategy are regarded as the central role as they are active labour force in agriculture. The programme focused to empower and sustain youth in agriculture.

The implemented focus is through human resources in collaboration with Local governments and NGOs, Ministry of Water and Livestock Development (MWLD) and PMO-RALG.

Under ASDS the government of Tanzania developed Agricultural Sector Development Programmes (ASDP) to be implemented under District Agricultural Development Projects (DADPs) in all districts of the country. DADPS provide grant and technical support to small agricultural projects in villages through capacity building as a way to attract the youth and other farmers in the industry.

iii. Kilimo Kwanza (Agriculture First) Initiative

It was officially launched in 2009 aiming to modernise agriculture, to up lift agricultural growth from the past rate of 4% to 10%. Kilimo Kwanza recognises the power it has in poverty reduction in the country. Thus, to achieve its goal the agenda set ten pillars to stand as implementation framework. The initiative recognises the youth contribution to its achievement as it is clearly stated in pillar number 8 that is;

Science, Technology and Human Resources for Kilimo Kwanza (FANRAP, 2012). According to this pillar, the primary activity is to institute mechanism for effective utilisation of science, technology and human resources for Kilimo Kwanza to which among other things it incorporates youth issues in agriculture by;

- Developing incentives programmes to attract, train and retain undergraduates.
- Introduce agricultural loans and provide land to entrepreneurial agricultural graduates.

Despite of the support by private sector, donor community efforts in escalating "Kilimo kwanza", these efforts remain skeptical. The programme is criticised since people regard it as a political slogan for the government personnel. A reason put forward behind the skepticism is low positive changes achieved since the implementations of the initiatives.

iv. Sokoine University Agriculture Initiative

Sokoine University of Agriculture (SUA) launched initiative in 2011 under its Department of Agricultural Economics and Agribusiness to enable graduates from the University to engage in agriculture and agribusiness as their career after graduating their studies. The programme has agreements with financial institutions of offering capital loans. One of the institutions is Commercial Rural Development Bank (CRDB) which provides between 10,000 -130,000US Dollars with an interest rate of 14% for SUGCO members.

Despite the initiatives to engage the youth in horticulture, still there is little number of youth engaging in horticulture. Life in rural and urban areas has become difficult and informal employment has gone down. In this view most of residences have adopted agriculture particularly horticulture in conducive areas as a mean of employment and income generation. Horticulture has been realised to be social economic strategy for poor people to contribute to household food and nutritional security, the creation of employment, income diversification through sales of surplus saving (Foeken et al., 2004).

(3) Youth Horticultural production and Poverty Reduction

Young people are seldom recognised as resources in decision making and development process. Despite their crucial role in driving positive changes in developments, policy making excludes the youth perspectives in development process. Equally important, youth horticultural activities and other youth organisations remain under resourced or ill-equipped. This affects the participation of the youth in development processes, policy making and to the processes relating to poverty Reduction Strategy Papers (SIDA, 2009).

Literature has documented a relationship about youth horticultural activities and poverty alleviation. The industry is crucial for the achievement of broader development objectives including poverty alleviation and economic development. A research done by REPOA (2008) found 80% of the jobs created are related from the activities of horticulture and small businesses.

It was estimated horticulture employed 22% of the adult population in developing countries. The study came to a conclusion that creation of job through horticultural activities play critical role in poverty reduction (REPOA, 2008).

Masashua et al. (2008) in their study about potential of urban horticulture for poverty reduction in Dar es Salaam found that vegetable production contributes in poverty reduction and there is a huge potential in applying horticulture in poverty reduction. Besides, the analysis found that vegetable production has positive contribution to income and food security as people are able to improve the consumption of food nutrients. Weinberger et al. (2005) reveal that families are able to pay education requirements through vegetable selling.

Horticultural crop can help to revitalise rural economies and alleviate poverty through increased farm profits and economic diversifications. Youth engaging in high –value horticultural crop production can earn higher net farm income than those growing staple crops. Tanzania farmers producing fruits, vegetables or flowers for export can earn six to twenty times more than maize growers (USAID, 2005). Tanzania youth's population aged 15-35 rates 34.6 % in 2012 (URT, 2013). It is

suggested more than two million youth are engaging in horticultural activities generating USD 127.7 million in 2010/2011 (MAFSC, 2012).

The demands of labour in the horticultural and related processing industries have the added benefits of local employment generation per hectare. The production of horticultural crops creates opportunities which are more than twice the number of jobs that cereal production generates. In places where there is large availability of labour, the sector of horticultural production represents a valuable employment opportunity. This covers employment to the family members during crop growth periods, and hired labour during planting and harvesting of the products from horticulture (Mc Culloh *et al.,* 2002; Weiberger *et al.,* 2005).

Above all, horticulture generates economic opportunities beyond the farm through associated services and industries. Such farm –related business could include provision of seeds; agrochemicals and infrastructure; the development of value added industries such as dried products, packaging, jams, storing and transportation of products. Furthermore, women could potentially benefit most from horticultural employment opportunities since they comprise more than 50 to 60 % of the horticultural labour supply in most developing countries where horticulture is practiced by the people (Lumpkin *et al.,* 2005).

(4) Environment for Horticultural production

Tanzania achieved significant growth in last decade but the volume still represents a small part of the overall industry. In this regards, horticultural produce in Tanzania is not fully tapped although there are main production areas in the Southern and the Northern regions. In the northern part the main production areas are Lushoto district, Hai and Siha districts in Kilimanjaro region. Production in small- scale in Arumeru district in Arusha region is done on the basis of production in a specialised particular crop. Morogoro remain a first region with the largest planned area of planted tomatoes consisting of 6,519 ha 19.3%, followed by Iringa 3,274 ha, 10,3% , Tanga 2,569 ha 8% and Zanzibar 2,370 ha 7.4% (MMA, 2008).

Horticultural production is hampered by some constraints, as a result the sector remains less fully tapped. In some studies such as (MMA, 2008) states; lack of technical innovative knowledge in improving production techniques, pest and diseases control hold back the sector. Soil infertility in some areas, harvesting and post-harvesting techniques, horticultural product loss and non sustainable systems are explained as some reasons resulting in low production efficiency. Other setbacks observed are lack of access to appropriate financial services for youth which results in lack of working capital to invest in moving up into chain or invest in farming. Lack of irrigation facilities and knowledge causes farmers fail to produce throughout the season. Above all, lack of effective formal institutions to support the sector and implement regulations, hampers development of the sector.

In the case of Morogoro, horticultural produce has been moving from production areas to consumers through different channels basing on the local areas. Horticultural produce are normally in access to rural areas where they are near to the rural consumers and are easily reached through informal transactions involving sales in village market centers. In many parts rural markets are informally held in villages at a particular location periodically. Most of these markets are close to the areas of production and the produce are transported by bicycle, motorcycle or by head where direct contact between farmers and consumers take place. In large rural markets farmers from distant places are drawn to the market where the products are carried by minibuses to consumers and traders (Mushumbushi, 2010).

More markets for horticultural production are available in inter regional and outside national markets operating under traditional supply chain which is largely driven by high diversification and informal organisation. Within the channel, the produce is transported from the farm level to the buyer through a broker in between. Buyers (middlemen) come to the areas of vegetables production to meet with brokers who have specialised in a particular vegetable. Sometimes large quantity buyers who want to sale in wholesale markets from outside the production areas hire transporters through transport brokers. Within the wholesale market such as in Kariakoo in Dar es Salaam there are brokers who work closely by forming a cartel as a means to protect

and make difficulties for new comers to inter into the business. In this channel between farmers and buyers, information asymmetry driven by little transparency puts farmers on the disadvantaged side (MMA, 2008).

On the other side, the environment for horticultural production is likely to develop due to some available opportunities. For example, technical and innovation knowledge is being provided in different parts of the country through programmes / projects by various institutions such as Hort Tengeru, SUA, AVRDC, TAHA smaller organisations such as Floresta and TOAMA. Mobile and telephone network available in some rural areas play an important role to the farmers in communicating market information. Equally important, urban centers and markets continue to grow and consequently leading to nice market for high quality produce (MMA, 2008).

(5) Environment and Key institution for Horticulture

The key institutions and drivers of horticulture in Tanzania are operated under agricultural sector of the country. The institutions referred here are actors responsible for policies, laws, programmes, strategies and processes that shapes agriculture sector but also with a central role of influencing young people engage in horticulture (agriculture).

i. International Institutions

For a number of years institutions that influence horticulture under the operation of agriculture sector are the UN-Food and Food Agriculture Organisation (FAO) through its national and international strategies and programmes in the agriculture. FAO collaborates with Tanzania through local institutions which have the major role to influence the development of agriculture sector and policy process to engage the youth in the sectors. Equally important, the World Bank provides financial and technical support to agriculture in Tanzania. States Agency for International Development (USAID), Japan International Agency (JICA), African agriculture Development Bank (ADB) play a big role to engage the youth in agriculture in

Tanzania through strategies, policy influence and initiating programme with local governments (FANRPAN, 2012).

For instance, USAID on its Tanzania Agricultural Productivity Programme (TAPP) works directly with smallholders to add value to short term horticultural products like vegetables, root crops, spices (chilles,vanilla) and fruits that have attracted many young people to involve in agriculture. Furthermore, the programme aims to increase income, improve nutrition and expand markets through value chain development to smallholders. The programme develops commercial farm, smallholders and agribusiness in high value crops in Arusha, Kilimanjaro Lushoto, Morogoro and Zanzibar. Also, the progamme works with Tanzania government and Tanzania Horticultural Association to provide services to small holders (FANRPAN, 2012).

ii. National and Local Governments

The Ministry of Agriculture, Food and Cooperatives (MAFC) plays a central role as a leading institution responsible for creating reliable efficient conditions to achieve agricultural growth in Tanzania. The 1997 National Agricultural and Livestock Policy and Agricultural Sector Development Strategy (ASDS) of 2001 are the two guiding documents. In regard to youth engagement in agriculture the Ministry of Labour, Employment and Youth Development and Prime Minister's–Regional Administration and Local Government (PMO-LARG) are responsible for implementing the policy by playing a central role to mobilise the youth in agriculture at a village level (URT, 2010).

iii. Academic, Research or Training Institution

Young farmers are equipped by knowledge and skills on better farming techniques by the training institutions. The training incorporates skills and knowledge on agribusiness management and entrepreneurship training focusing on agriculture. In the effort to disseminate the knowledge and skills the Sokoine University of Agriculture (SUA) has been playing a leading role in academic and research in agriculture in terms of research and capacity building. Ministry of Agriculture

Training Institutes (MATIs) and Livestock Industry Institutes (LITIs) offer certificates and diplomas in agricultural related studies (URT, 2010).

iv. Private Sectors

The problem of accessing fund in Tanzania especially in young farmers is acute, providing loans to young people is even more difficult since lending money to young people is considered to be very risky. In different parts of the country youth lack collaterals to guarantee for loan applications. Due to this reason, banks, microfinance institutions and financial services providers have the role to play in influencing the youth to engage in the sector through affordable and innovative credits.

Currently, local banks like CRDB and NMB provide financial credits to support agricultural projects.

However, the youth benefit less from the opportunity since the banks target large scale agricultural projects with farms not less than 50ha with an interest rate of 14 % to qualify for the loan (MAFSC, 2010).

(6) Youth Horticultural production Sustainability

Sustainability was widely used in 1990s as a result of Brundland report 1987 from the World Commission on Environment and Development of the United Nations. The term was defined as meeting the needs of today without compromising the ability of future generations to meet their needs. Sustainability is commonly defined as being economically viable, environmentally sound and socially acceptable (Granatstein and Kupferman, 2015).

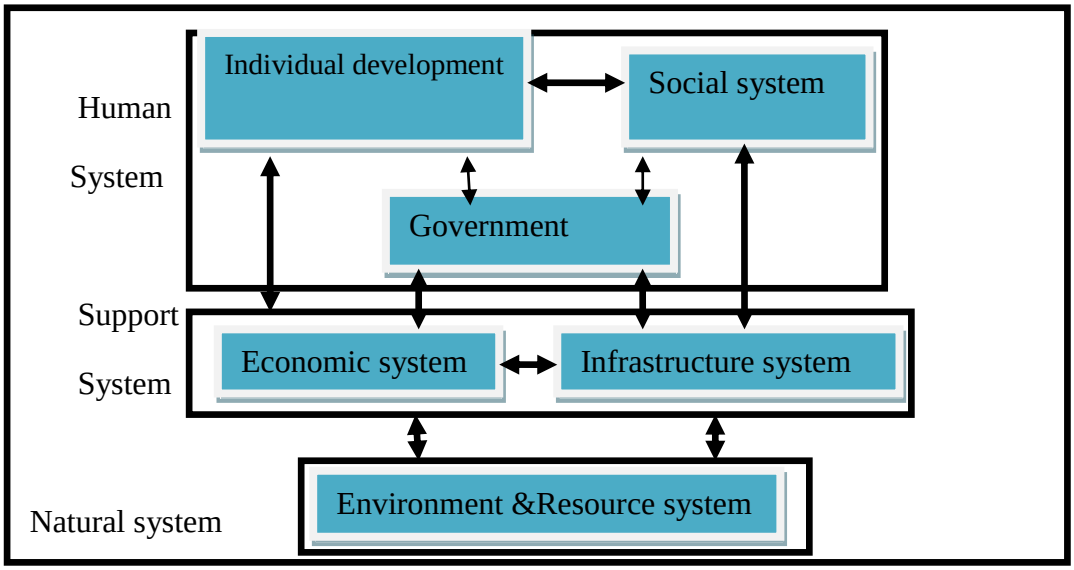
(7) Principles of sustainable horticulture

Sustainable horticultural production should be considered as a goal, direction or a concept rather than a specific set of farming practices. Literature differs in terms of the perspectives in horticulture sustainability. These includes increasing reliance on renewable and internal production inputs, information intensive and recognition of both the long and short term cost and benefit of farm practices. Other principle

includes “Nature as a model” which restricts deploying solutions that create more problems than they solve. Thus, sustainable horticulture should be considered as direction rather than a threshold (Jackon, 1985) cited from (Granatstein and Kupferman, 2015).

Bossel (1999) a report to the Balan group on indicators for Sustainable Development Theory, Method and Application. He explains six sub systems corresponding to potentials that should be maintained for any sustainable development. Bossel emphasizes that the subsystems are essential parts of the anthroposhere (the sphere that is affected by and affects human development). The subsystem can be viewed as representing a certain potential that is vital to the development of the total system. In this sense the term potential denotes a stock or capital of vital assets which can grow or depreciate, and must be maintained in good state in order to contribute its share to the development of the total system. Figure 2.1 shows the major sub systems or spheres affected by and after human development and their relationship for development sustainability.

Figure 2.2: Six Major Systems or Sphere Affected by and Affect Human Development and their Relationship for Development Sustainability



Source: Bossel, 1999

(i) Individual Potential

Describes the potential for competent individual action as produced or producing the responsibilities for individual development

(ii) Social Potential (Social System)

To sustain development there must the ability to deal consecutively with social processes and to employ them for the benefit of the total system. This should be accompanied by strong cultural components determining social coherence and relationships. It includes such aspects as honestly, trust, competency and efficiency.

(iii) Organisational Potential (Government system)

It manifests in the know-how and performance standards of government, administration, business and management. This is vital for effective resources use (natural and human) for the benefit of the total system.

(iv) Infrastructure Potential System

This denotes the stock of the built structure which supports horticulture; these are not limited but like roads, water supply system, Universities to conduct researches. These are vital in the back bone of all economic and social activity.

(v) Production Potential of the Economic System

This includes the stock of production, distribution and marketing facilities. This provides a means for all economic activity. This is associated by the accumulation of the results of tradition and culture as well as social-political and economic conditions.

(vi) Natural Potential

This represents the stock of renewable and non renewable resources of materials, energy including the capacity of absorption and regenerations.

The six sub systems can be aggregated to three subsystem; human system, support system and natural system. For each subsystem needs number of indicators to capture all aspects of sustainability and of their contributions to viability and sustainability of the total system. The total number of indicators increases with the number of subsystems included. The number of indicator are put in manageable level, the mentioned six sectors can be aggregated to three subsystems;

a) Human system which equals to social system plus individual development+ government
b) Support system which is equals to Infrastructure plus economic system
c) Natural system which is equal to natural resources and environment

In addition, the three subsystems correspond to the three categories of capital that are often used in analyses of the total system: human capital, structural capital and natural capital.

2.19 Theories on Sustainability

Sustainability came into light after a report of 1972 "Limits to Growth" which was issued by the international think tank Club of Rome. The World Conservation Strategy initiated by International Union for Conservation of Nature, in association with U.N Environment Programme and World Wildlife Foundation. The association worked to make sustainability a benchmark of international action. Then, the term "sustainable development" achieved international public status through the 1987 report of the World Commission on Environment and Development, Our Common Future, often called "Brundtland Report" named after its chair, former Norwegian prime minister Gro Harlem Brundtland. It presented the definition: *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*. Though the Brundtland definition has bonded sustainability too closely to development and for focusing on human needs to the exclusion of other life, but the Brundtland Report has helped initiate an international public debate on sustainability that has since generated numerous alternative formulations (Jenkins, 2007).

Sustainability according to Jerkins (2007) is explained into two approaches of models of sustainability. The two approaches are named "weak" and strong" approaches, "weak sustainability" disregards specific obligations to sustain any particular good, adopting only a general principle to leave future generations no worse off than we are. "Strong sustainability" gives priority to the preservation of ecological goods, like the existence of species or the functioning of particular ecosystems. The two views loosely correspond to ecocentric (ecologically centered) and anthropocentric (human-centered) positions in environmental ethics, but not perfectly. The ecocentric view requires that moral decisions take into account the good of ecological integrity for its own sake, as opposed to exclusively considering human interests.

But a strong sustainability view could be held from an anthropocentric perspective by arguing that human systems depend on rich biodiversity or that human dignity requires access to natural beauty.

The third approach is a pragmatic middle view which states that, while we may not have obligations to sustain any particular nonhuman form of life or ecological process (the strong view), neither should we assume that all future opportunities can be measured against one another (the weak view). Jenkins (2007) holds preservation of some opportunities for future generations requires the enduring existence of particular ecological goods. In a similar approach of pragmatic view proposed new powers of human agency, able to comprehensively threaten their own conditions, require a new moral imperative to act responsibly for the sake of human survival. The approach establishes a premises that sustainability is not a strong question about nature's intrinsic value nor weak one of producing opportunities but rather sustainability is a question about maintaining a decent survival (Jenkins,2007).

The theories of sustainability hold important value on the debate about sustainability. However, the theories have become complex to organise with dualistic terms like "strong" and "weak" or "ecocentric" and "anthropocentric." Thus, sustainability can instead be thought in terms of models for sustainability. These are political model,

economic model, and ecological model which are not mutually exclusive and often integrate complementary strengths of the others. Distinguishing them, however, helps make sense of alternative concepts of sustainability (Jenkins, 2007).

2.19.1 Political Models

Political models propose to sustain social systems that realise human dignity. Concerned with the way in which local and global environmental problems jeopardise human dignity, these models focus on sustaining the environmental conditions of a fully human life. Environmental justice and civic environmentalism represent one strategy of this model; by focusing on environmentally mediated threats to human life they point to necessary ecological goods or sustainable environmental management schemes (Jenkins, 2007).

Other strategies within this model, such as agrarianism or deep ecology, involve more substantive visions of the human good. Ultimately, these models recommend sustaining the cultural conditions needed to realise ecological personhood, civic identity, or even personal faith through ecological.

Besides, one subset of the political model takes a pragmatist's approach and suggests that we must maintain conditions for keeping open the debate about sustainability. In this view sustaining a political system of deliberative democracy effectively requires sustaining ecological and economic goods along with political goods like procedural rights. However, both the quality and quantity of those goods is regulated by the needs of the political system, which thereby constrains sustainability commitments

Therefore, theories of sustainability attempt to prioritise and integrate social responses to environmental and cultural problems. An economic model looks to sustain natural and financial capital; an ecological model looks to biological diversity and ecological integrity; a political model looks to social systems that realise human dignity. Religion has entered the debate with symbolic, critical, and motivational resources for cultural change. Certainly, in its search for durable responses to global problems sustainability is a temporally prospective concept, but it does not reduce considerations of the future because it includes contemporary problems (like

overcoming extreme poverty). As the Brundtland definition indicates, sustainability must seek a way to balance obligations to the present and the future.

2.19.2 Economic Models

The model holds on the main idea that, opportunities should be sustained in the form of capital. The view consider as an investment in a problem in which we must use returns from the use of natural resources to create new opportunities of equal or greater value. Social spending on the poor, justifiable on other grounds takes away from this investment and so strives with a commitment to sustainability.

With view of capital, however, the economic model might look different. If we do not assume that "natural capital" is always interchangeable with financial capital, then sustaining opportunity for the future requires strong conservation measures to preserve ecological goods and to keep economies operating in respect of natural limits. These considerations complement an ecological model (Jenkins, 2007). From a different perspective of the relation between opportunity and capital, spending on the poor might be regarded as a kind of investment in the future.

We create options for the future by creating options for today's poor because more options will drive greater development. In this political model of sustainability, sustaining opportunity for the future requires investing in individual dignity today. This approach complements the political model.

2.19.3 Ecological Models

Economic models propose to sustain biological and ecological integrity which focus on opportunity or capital as a key unit in sustainability. The two major ways of sustaining as suggested in this model. Anthropocentric point (human point of view) holds essential natural resources (water, land, forest) should be sustained as should the ecological systems and regenerative processes on which human systems and regenerative processes on which human systems rely. From an ecocentric point of view species should be sustained for their intrinsic value.

2.20 Development Policies

The consideration in this thematic area in Tanzania includes action and policies for accelerating development and poverty reduction in line with millennium development goals. Strengthening implementation is critical for socio-economic development for all people so as to reduce poverty especially in rural areas where the majorities are poor.

2.20.1 Agricultural and Livestock policy of Tanzania

The policy states Tanzania's climatic growing conditions accommodate the production of wide range of vegetables mostly but not limited to tomatoes, spinach, cabbage and okra. The availability of external markets for vegetable from Tanzania presents good availability of market in neighboring countries, Middle East and Europe.

Youths in Tanzania provides an opportunity for increased economic development particularly in agriculture the main economic activity in rural areas. Youth constitutes labour force that is a key for increased agricultural production and productivity. Youths require equitable access to productive resources that provide a solid economic and material base for their development.

The policy speculates to promote youth engagement in agriculture by creating an enabling environment to attract youths in agricultural production promoted by; Accessibility to productive resources including labour saving technologies (mechanisation equipment), surveyed land, and facilitated irrigation infrastructure. Furthermore, the policy mission states to facilitate the transformation of the agricultural sector into modern, commercial and competitive sector in order to ensure food security and poverty alleviation through increased volumes of competitive crop products.

2.20.2 National Youth Policy of 2007

The National Youth Development Policy recognises the importance of the agricultural sector as the largest employer in the economy. The incidence of unemployment among the youth is relatively high. The youth in the country constitute 60% of all people who are unemployed (URT, 2007). However, there is inadequate infrastructure to capture the participation of the youth in contributing to the agricultural labour force. This has accelerated the sector unattractive to young men and women who migrate in urban areas where they remain either un-employed or under-employed. The policy statement on youth states to provide guidelines with a view of facilitating proper youth upbringing and develop youth in the area of economic. Also, the policy state to develop mechanisms for promoting labour intensive infrastructure and creating conducive development strategy and agricultural sector development strategy (URT, 2007).

2.21 Empirical Literature Review

Gebremarian (2004) demonstrated a positive result in which horticulture has a contribution in economic growth. He explained the relationship between incidence of poverty, horticultural activities and economic growth in respective to job creation. Birch (1989) argues that 80 % of the jobs were created in 1969 and 1976 in the US as a result of horticultural activities and the estimates show 22 % of the adult populations in developing countries were employed in small and medium scale business.

Previous studies show that youth can play a crucial role in youth economic development and income generation. For instance, in 1960s the UK government introduced United Kingdom Youth Development Policy (UKYDP) which outlined programmes targeting all aspects of youth economic development to provide special assistance to young between ages of 18-30 years. Youth Enterprise Scheme was able to reach more than 350000 young people per year and 5,500 youths from schools, colleges and Universities were able to start their own business and helped them to get notable achievement in generating income and development (EKN, 2010).

A research by Agyapong (2010) on horticultural business in Ghana has shown an important role in economic development and poverty reduction. Apart from creating job, facilitate the distribution of goods, export and import revenues the sector has great cradle of innovations. Horticultural business was able to help people in towns and rural areas to alleviate poverty by generating income, enabling families to obtain health care and empowering people to make the choices that best serve their needs.

Achetersosch and Ssonko (2007) studied on poverty alleviation in horticulture. They revealed that it is an important industry in creating jobs and income for the people in northern Vietnam. The analysis insists that, farmers in Vietnam engaging in horticulture would not able to produce above poverty expenditure line if they kept involving in crop production of paddy. The total number of 45% and 55% would end up below the poverty expenditure line. In Uganda the analysis shows the sector provided income generating activities, employment and profitability of the enterprises. Besides, the sector has contributed in upgrading the skills in horticultural production. Employment is also generated by the farm owners where large farm producing operates. Farmers engaging in the production of horticultural products earn net farm incomes more than farmer that are engaging in production of cereal crops alone (Lumpkin and Weigberger, 2005).

An analysis about potentials of urban for poverty reduction revealed urban vegetable production contributed to the increase of income to producers (smallholder farmers).The study found horticultural activities are beneficial to the urban vegetable farmers of Dar es Salaam in Tanzania. Besides reducing income poverty the sector was found vital in reducing non income poverty as it helped to increase food security, improving in access and affordability of health and education services. The study established a significant consensus of horticulture in vegetable production to poverty reduction (Masashua, Dimoso and Hawassi, 2008).

2.21.1 National Youth Development Policy 2007

The national policy of Tanzania speculates on the obligations the youth have in participating freely and fully in the social and economic life of the state and the individuals. The governments states to set mechanism to provide guidelines with a view of facilitating proper youth upbringing and develop the youth in the areas of economic. The young people require economic enrichment to resources to provide a solid economic and material base youth development (URT, 2007).

However, young people especially in rural areas faces limited accessibility of resources such as financial capital, lack of marketing skills and production of quality products. The government commits itself in collaboration with private organisations, youth organisations and business community to promote the culture of entrepreneurship by creating enabling environment for youth enterprise development. Besides, the policy points out the problem of youth in rural areas as they have been not able to graduate to formal sector activities due to poor technologies, poor infrastructure and inadequate social services. The government efforts to create a supportive environment for the youth to settle in rural areas through improving of social services is questionable, the present situation to support the youth activities of horticulture by in rural areas is either mentioned only by politicians (URT, 2007).

Horticulture contributes in the improvement of the economic growth and poverty reduction at both national level and individual level. The foreign exchange rate generated by horticulture industry in Tanzania has increased from USD 46.5 million per annum in 2006/09 to USD112.6 million in 2008/09 and USD 127.7 million in 2010/11 (Mashindano, Dimmoseo and Baregu, 2013). Horticulture provides a contribution on human livelihood. The income generated in horticultural activities provide as a source of livelihood in rural and urban areas.

This fact is manifested by the population employed in this informal sector. For instance statistics indicates that in 1991 horticulture share a total of 14% in rural areas earning an average of TZS 14,120 and 7,270 per month. The population employed in horticulture in 1994 estimates to labour force of 60 % (URT, 1994).

The idea is supported by Msangi (2002) citing an example from horticulture related entities run by women in Dar es Salaam. The findings found that income earned does not help a bread winner only but it goes directly in household responsibilities. Masashu, Dimoso, and Hawassa (2008) study on potentials of urban horticulture and poverty alleviation recommended that horticultural activities in vegetable production contributes to the increase of income in horticultural producers, increase in food security, improve in human needs as well as affordability of health and education services.

2.22 Research Gap

Empirical studies have revealed the importance of horticulture in income generation, economic growth and poverty alleviation in rural and urban areas. Policies recognise the roles of the youth and the significance of horticulture in improving individual economic development and reduce the rate of poverty. A number of these empirical studies have analysed the horticultural sector and roles the sectors play in employment and income generation in the society. More studies on youth participation in horticulture and whether the sector contributes in reducing poverty in youth are needed. Hence this study was designed to address that gap.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents research methodologies and research design of the study. Specifically, the chapter covers the study area, research design and approach, population and unit of analysis, sample size and sampling techniques, sampling procedures, types and sources of data, data collection methods, data processing and analysis.

3.2 Research Design

The research design is the overall conceptual structure through which the research will be conducted. Kothari (2004) defined a research design a plan or strategy used to get the expected results. This study adopted a case study research design. Yin (1984) defines case study research design as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used. Case study research design has been used because the study was interested in attaining an in-depth understanding about horticulture in a small selected geographical area with a limited number of individuals due to the wide scope of the problem studied which cannot be comprehend within a short period. Furthermore, case study gives detailed qualitative accounts often which help to explore or describe the data in real life environment but also help to explain the complexities of real life situation which may not be easy captured through experimental or survey research. In applying case study design, methods including questionnaires, interview, focused group discussion, interview and documentary analysis were used to explore information for depth understanding about youth participation in horticultural production and poverty reduction.

3.3 Study Area

The study was conducted in Mvomero District in Morogoro region, specifically in Mlali and Mgeta wards. These areas were selected due to the reason that horticultural activities have been carried out and for the most of the people it has been one of the major sources of their income. Mvomero is one of the six districts forming seven councils of Morogoro region namely Mvomero, Kilosa, Kilombero, Morogoro, Ulanga, Gairo and Morogoro Municipality Council.

3.3.1 Location

Mvomero District lies between latitude 5degree 58 and 10 degree 0 to the South of the Equator and longitude 35 degree 25 and 35 degree 30 to the east. It borders Handeni and Kilindi Districts in the North, Bagamoyo District in the East, Kilosa District in the West, Morogoro Rural and Morogoro Urban (Municipality) in the south. The total area is 7,325 square kilometers (URT, 2013).

3.3.2 Area, Population and Administrative Set up

Mvomero occupies a total area of 7,325 km^2. The area suitable for agricultural activities occupied 549,375 hectares. The cultivated areas were 247,219 hectares. This was equal to 45% of the total area. The area is suitable for livestock keeping covered by 266,400 hectares. The 2012 National Population and Housing Census rank the district with the Population reaching 312,109 in which males were 154,843 and females were 157,266 with an average household size of 4.3. The predominant tribes in the district are the Nguu (Walukungwi), Zigua, and Luguru tribes. Makua, Maasai, Sukuma and Mang'ati are tribes which are not indigenous but migrated into the District. Other groups of people apart from the Bantus are people with Arabic blood and Nilo hamitic tribes living in the District. Administratively, the District is divided into 4 divisions namely; Mvomero,Turiani,Mgeta and Mlali, 23 Wards, 115 Villages and 631 hamlets (URT, 2013).

Table 3.1: District Population Distribution by Ward and Sex

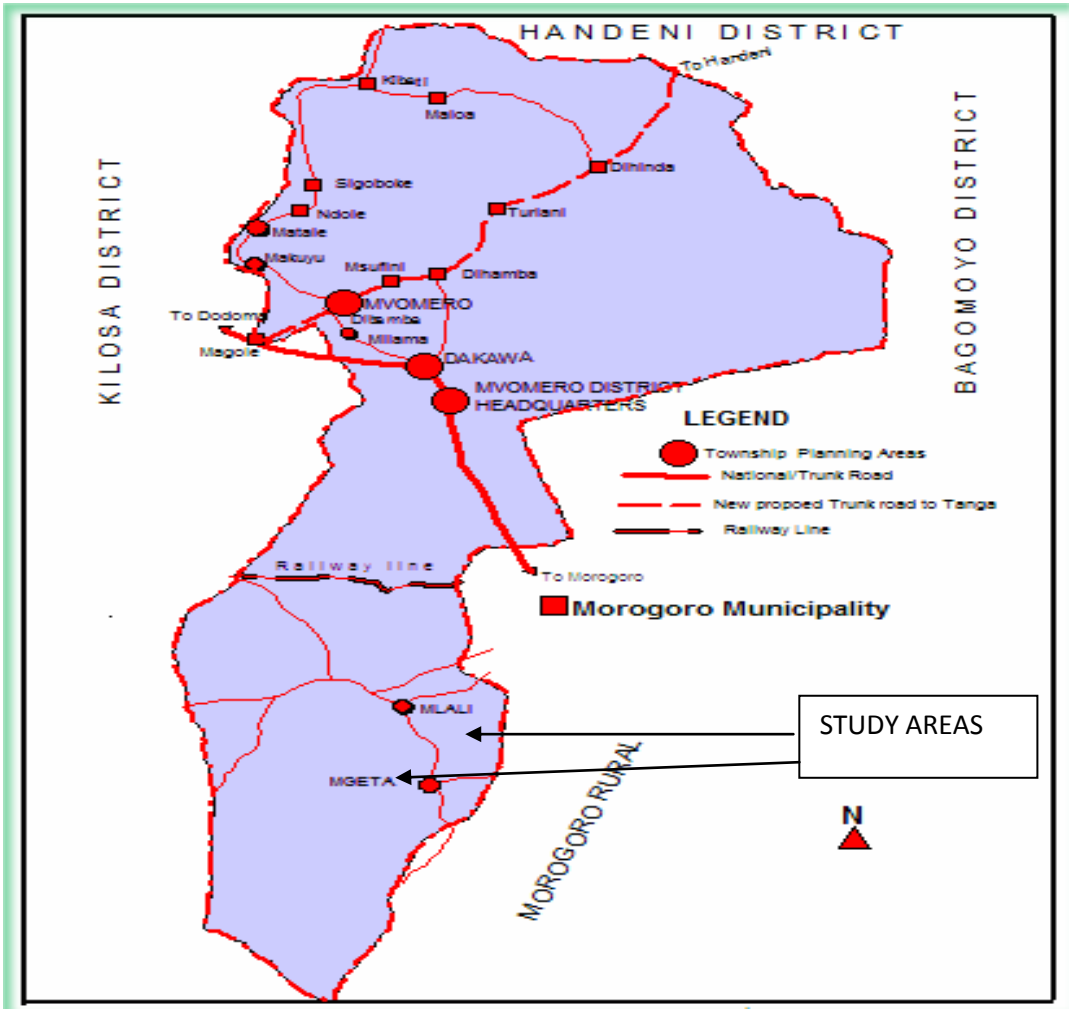
S/N	Ward	Population (number) Male	Female	Total
1	Mvomero	18,689	18,632	37,321
2	Hembeti	10,311	10,746	21,057
3	Maskati	7,165	7,231	14,396
4	Kibati	11,289	11,339	22,628
5	Sungaji	7,131	7,377	14,508
6	Mhonda	10,073	10,281	20,354
7	Diongoya	10,309	10,708	21,017
8	Mtibwa	16,025	15,357	31,382
9	Kanga	10,782	10,236	21,018
10	Bunduki	3,467	3,669	7,136
11	Kikeo	6,987	7,531	14,518
12	Langali	4,169	7,531	11,700
13	Tchenzema	5,356	5,873	11,229
14	Mzumbe	9,264	9,792	19,056
15	Mlali	11,470	11,850	23,320
16	Doma	6,580	6,461	13,041
17	Melela	5,776	5,742	11,518
Total		**154,843**	**160,356**	**315,199**

Source: URT, 2013

3.3.3 Main Economic Activities

District economy depends highly on agriculture, employing 90.1% of the population engaging in crop production. The major crops grown are maize, paddy, cassava and sorghum. The main cash crops produced are sugarcane, vegetables and oil crops while coffee, cotton are minor cash crops. Other economic activities in the district include fishing, mining, quarrying, forest product and trade. The population engaging in fishing and industry related activities was 2.6% and the population 1.9% participated in trade and commerce (Mvomero District Profile, 2014).

Figure 3.1: The Map of Mvomero District83



Source: Mvomero District Profile, 2014

3.4 Population and Unit of Analysis

3.4.1 Population of the Study

Population is a complete set of elements that possess some common characteristic defined by the sampling criteria established by a researcher (Msabila & Nalaila, 2013). The population in this study was male and female youth aged between 16-35 years who were participating in horticulture in Mvomero District.

3.4.2 Unit of Analysis

Unit of analysis means the entities which can be individuals, groups, geographical units that are analysed in a study. Thus, unit of analysis can mean who or what is being studied (Msabila & Nalaila, 2013). The researcher conducted the study on the levels of district and ward. At the level of the district the study involved Community Development Expertise such as District Trade Officer (DTO), community development officer (CDO), District Community Development Officer (DCDO), District Agriculture and Irrigation Community Officer (DAICO). At the ward level the study included youth participating in vegetable production and members of Ward Development Committee (WDC) specifically, 1 Councilor from every two selected wards, 2Village Executive Officers (VEOs) representing one village from every one selected for the study and 2 Ward Executive Officers (WEOs) from two wards.

3.5 Sample Size and Sampling Techniques

3.5.1 Sample Size

This refers to the number of items to be selected from the universe to constitute a sample. The sample size in research is neither excessively large, nor too small. It should be an optimum sample which fulfills the requirements of efficiency, representativeness, reliability and flexible (Kothari, 2004).

A sample size of the study was 60 respondents. The sample was drawn from the district level and ward level. The study drawn 1 DTO from the district level, the person was important in giving information about horticulture market environment in the district. Other respondents were; 1CDO, 1DAICO, and 1DCDO. The mentioned participants were reached through purposive sampling since their positions at district level are held by one person. The respondents were involved in the study since they possessed general and relevant information about the study and they helped a researcher to proved relevant information to accomplish his study.

At the level of the ward the study involved two wards of Mlali and Mgeta. The respondents involved include 2 Ward Executive Officers (WEO), one from each mentioned ward. Also, there were 2 Village Executive Officers (VEO) each coming from one village of the ward studied. Moreover, 2 elected Councilors each from a different ward (Mgeta and Mlali) were interviewed. Finally, total numbers of 50 youth involving in horticultural production including village chair persons were also involved. The youth were further divided, 25 youth were obtained from Mlali ward in which 8 were female and 17 male. The other 25 youth were obtained from Mgeta ward in which male were 17 and 8 females. The researcher obtained lists of names of youth involved in horticulture from one of the village chairperson in Mlali and Mgeta ward and then all names were written on pieces of paper and mixed thoroughly in two different boxes. Lastly, the written names on pieces of paper were drawn out the boxes to get a number of 25 representatives from each ward. In this study, WEO and VEO were involved since they are responsible in administering all development sectors in the villages and wards, besides VEO works very close with the community where the researcher was conducting his research hence VEO were important people to provide detailed information about development activities in their respective villages. The councilors were also responsible for giving general information about development in the ward. Youth involved in horticulture were responsible for giving detailed information about their development activities. WEOs, VEOs and Selected Counselors were purposively obtained from the selected villages and wards. Table 3.2 provides a composition of sample size by District and ward.

Table 3.2: Composition of the Sample Size by District and ward

Level	**Respondents**	**Number**
District	District Trade Officer (DTO)	1
	Community Development Officer(CDO)	1
	District Agriculture and Irrigation Community Officer (DAICO)	1
	District Community Development Officer (DCDO)	1
Ward	Ward Executive Officer (WEO)	2
	Village Executive Officer (VEO)	2
	Councilors	2
	Youth	50
	Total	**60**

Source: Researcher's construction, 2015

3.5.2 Sampling Procedures and Techniques

Sampling techniques are methods which are used to obtain data, basically these procedures are classified into non-probability and probability sampling techniques. Non-probability sampling techniques are sampling techniques where selection of individuals for the sample does not have equal chance of being selected for the study. On the other side, probability sampling techniques gives equal opportunity of an individual to be studied which includes but not limited; simple random sampling, systematic random sampling, stratified random sampling and cluster random sampling (Bowling, 2002).

This study applied purposive and simple random sampling. Bowling (2002) defines purposive sampling as a non-random method of sampling, which samples a group of people or settings, with a certain characteristics and usually applied in qualitative research designs. Purposive sampling was used to pick DTO, CDO, DCDO, DAICO, elected Councilors, WEO, VEO and Village Chairpersons. Besides, the technique was used to pick wards and Villages where youth vegetable cultivation activities in the district are carried out.

Furthermore, simple random sampling was used to obtain information from the youth involving in vegetable cultivation. The technique was used because it provides an equal chance for every unit to be studied. Thus, simple random sampling provided unbiased information to the units studied. The researcher conducted a pilot study in the villages where horticultural activities by the youth were carried before embarking on the actual research. The researcher asked the village chairperson names of the youth engaging in horticultural production. The names of each member were written on a piece of paper and mixed thoroughly in a box before randomly drawing out names to ensure sampling design provides equal chances. Table 3.3 provides summary of sampling techniques used by the researcher.

Table 3.3: Sampling Techniques of the Study

S/N	Techniques	Respondents
1	Purposive Sampling	DCDO
		DTO
		Councilor
		DAICO
		WEO
		VEO and Village chairperson
2	Simple Random Sampling	Youth (Male and Female)

Source: Researcher's Construct, 2015

3.6 Types and Sources of Data

The study used primary and secondary data. Primary data are information which are collected afresh and for the first time and thus, happen to be original in character. To obtain the information the researcher applied observation method and direct communication with respondents through personal interviews and focused group discussion. Secondary data was another type and source of data which complimented the study. Secondary data are type of information obtained through reading various literatures. The researcher used other related written sources relating to the title of the study. These readings were obtained from various sources including government policies, academic and private research, books, journals, reports, periodicals and internet sources (Kothari, 2004).

3.7 Methods of Collecting Data

To fulfill the purpose of the study, primary data and secondary data were obtained using; interviews, observations, questionnaires and focused group discussion for primary data while documentary reviews was used to obtain secondary data.

3.7.1 Questionnaires

Questionnaires are research instruments consisting of a series of questions and other prompts for the purpose of gathering information from respondents (Kothari, 2004). The method is popular particularly in case of big enquiries. The questionnaires were administered to WEO, VEO, Village Chairpersons and the youth who were

participating in vegetable cultivation. The numbers of open and closed ended questions were asked to respondents who were able to read and write.

After answering the questions, the answers were returned to the researcher for further analysis. The method was preferred since it involves low cost even when the universe was large. Similarly, the method was free from the bias of the interviewer and answers were in respondents' own understanding. Moreover, respondents who were introvert were also reached appropriately through this method (Kothari, 2004).

3.7.2 Interview

The interview method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses. This method can be used through personal interviews and if possible, through telephone interviews (Kothari, 2004). The study adopted personal interview method in which the researcher asked face to face questions in structured and unstructured way to the youth and development expertise. The method was administered to VEO, WEO, DCDO, DAICO, DTO and CDO-YC. The researcher initiated the interview and collected the information by recording and noting down. The application of the method was administered to obtain abundant information within a reasonable time and to acquire relevant information from government officials who often run short of time and results in delayed answers. Unstructured interview applied to supplement information about the respondent's personal characteristics and environment which is often of great value in interpreting results collected.

3.7.3 Observation Method

It is the method of collecting primary data through direct observation on what is happening without asking questions from the respondents. The researcher used some of his time to observe youth horticultural activities. The researcher observed the performance of youth horticultural activities, type of vegetable grown by the youth in their farm, harvesting activities and marketing activities of the products. The method did not only provide a chance to see the youth's challenges and opportunities in

implementing their activities, but it helped the researcher to compare explanations given by the respondents and the relevance of the researcher's observation.

Lastly, the method helped to provide valid and reliable information due to the absence of possibilities of being subjected to biasness.

3.7.4 Focused Group Discussion

Kothari (2004) defines focused group discussion as a small number of people, usually between 4 and 15, but typically 8, brought together with a moderator to focus on a specific topic. The study used focused group discussion which involved the youth engaging in horticultural production, the group consisted between 7 to 9 people. The purpose of this technique in the study was to draw respondent's attitude, feelings, experience and reactions in a way which would not be visible using other techniques. Focus groups aimed at the discussion instead of an individual responses to formal questions, and produce qualitative data which could be or could not be representative to the general population. During the discussion the reseacher played the role of moderating, guiding the group participants towards the topic in the discussion and encourage the respondents to provide their views regarding horticultural production. While the discussion was moving forwad, the researcher recorded the conversations and noted down important points for further analysis.

3.8 Document Analysis

Document review involves the use of texts and documents as source materials these includes but not limited to government publications, newspapers, census publications, pictorial sources in paper and electronic (Scott, 2006). The researcher intended to obtain secondary information from other ready documented information about horticulture. Thus, to achieve the objective various documents such as reading journals, policies and other related reports which were relevant for the study were used. Table 3.4 provides a summary of data collection method.

Table 3.4: Summary of Data Collection Method

Types of Respondents	Number of Respondents	Methods of Data collection
DALDO	1	Interview
DCDO	1	Interview
CDO-YC	1	Interview
DTO	1	Interview
Councilor	2	Interview
WEO	2	Questionnaires/ Interview
VEO	2	Questionnaires/interview
Youth	50	Questionnaire/Observation

Source: Researcher's construct, 2015

3.9 Data Analysis

Information obtained through questionnaires were analysed using software programmes; Statistical Packages for Social Science (SPSS) version 20 and Microsoft excel of window 7 professional 2010.To make the analysis less complicating data were coded. Furthermore, editing of information obtained from the study area was reviewed and some editing was done. Data entrance in SPSS was done after coding some information. The task of entering data was followed by data cleaning and verifications so as to remove some errors. Descriptive statistics was applied to get multiple responses procedures, percent and frequencies. The presentation of the findings was accomplished through presenting percents, figures, tables and charts after being processed in Microsoft excel programme.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the findings and discussions of the study. The presentation of the findings and discussions is organised according to the research objectives. The research starts by presenting demographic information of the respondents, it provides types of horticultural farms owned by youth in Mvomero District, the performance of youth horticultural farms in Mvomero District, outcome of youth participation in horticultural production on socio-economic effects in Mvomero District, factors influencing youth horticultural activities in Mvomero District and lastly, it provides ways of improving youth horticultural production.

4.2 Demographic Characteristics of the Respondents

It was important to find out respondent's sex, age, education, marital status, household size, occupation and income level. This was crucial since respondent's characteristics and their participation had effects and important contribution in the study.

4.2.1 Distribution of Respondents by Sex

The study involved total of 60 (100%) respondents. Male were 42 (70%) and female were18 (30%). Both males and females were involved because they both participated in horticultural production. The respondents were categorised into two main groups. The first group consisted the youth who were participating in horticultural production. The group of youth had 34 (56.67%) male and 16 (26.67%) female. The second group had key informants who were officials from the district level and ward level with total number of 10 (16.67%) officials. They included 8 (13.33%) male and 2 (3.33%) female. Table 4.1 summarises the number of respondents by sex.

Table 4.1: Sex of the Respondents

S/N	Category of respondent	Sex of respondents				Total	
		Male		Female			
		No	%	No	%	No	%
1	Youth	34	56.67	16	26.67	50	83.33
2	Officials	8	13.33	2	3.33	10	16.67
	Total	**42**	**70.00**	**18**	**30.00**	**60**	**100.00**

Source: Research Findings, 2015

4.2.2 Distribution of Ages of the Respondents

Ages of the respondents in the study were grouped into age groups of 16-25 years, 26-35 years and the last group was 36years and above. The study found that respondents falling in the age-group of 16-25 years were 16 (26.67%), age-group of 26-35 were 36 (60%) and respondents aged 36 and above were 8 (13.33%). Ages of the respondents were important for the study because it helped to analyse the relationship of the efforts of the youth's activities and poverty status. Table 4.2 summarises the age of respondents.

Table 4.2: Distribution of Respondents by Ages Group

S/N	Age Group	Category of respondents					
		Youth		Officials		Total	
		No	%	No	%	No	%
1	16 – 25	16	26.67	-	-	**16**	**26.67**
2	26 – 35	34	56.67	2	3.33	**36**	**60.00**
	36 +	-	-	8	13.33	**8**	**13.33**
Total		**50**	**83.33**	**10**	**16.67**	**60**	**100.00**

Source: Research Findings, 2015s

4.2.3 Education Level of Respondents

The researcher sought information on education level of the respondents and the information were important because education has the effects on the responses provided. Besides, education level determines one's awareness, understanding of the subject about poverty, ability to discover new opportunities and challenges handling. In this regard, respondents were asked to state their levels of education. The study found that 3 (5.00 %) respondents had never attended formal education, 38 (63.34%) had primary education, 10 (16.67%) had secondary education, 5 (8.33%) had tertiary

education and 4 (6.67%) respondents had University education. The distribution of respondents by education level is summarised in Table 4.3.

Table 4.3: Distribution of Respondents by Education Level

S/N	Education Levels	Category of Respondents					
		Youth		Officials		Total	
		No	%	No	%	No	%
1	None	3	5.00	-	-	**3**	**5.00**
2	Primary	37	61.67	1	1.67	**38**	**63.34**
3	Secondary	8	13.33	2	3.33	**10**	**16.66**
4	Tertiary	2	3.33	3	5.00	**5**	**8.33**
5	University	-	-	4	6.67	**4**	**6.67**
Total		**50**	**83.33**	**10**	**16.67**	**60**	**100.00**

Source: Research Findings, 2015

4.2.4 Marital Status of Respondents

The respondents were given options to state whether they are single or married, widowed, divorced or separated. It was important to determine the proportion of different categories of marital status and how they participate in horticulture. From a sociological point of view, marital status is associated by responsibilities in the society. The study indicated that, 20 (33.34%) respondents were single, 34 (56.67%) married, 4 (6.67%) separated and 2 (3.33%) respondents were divorced. The distribution of marital status of respondents is summarised in Table 4.4.

Table 4.4: Marital Status of Respondent

S/N	Marital status	Category of respondents					
		Youth		Officials		Total	
		No	%	No	%	No	%
1	Single	19	31.67	1	1.67	**20**	**33.34**
2	Married	25	41.67	9	15.00	**34**	**56.67**
3	Divorced	2	3.33	-	-	**2**	**3.33**
4	Separated	4	6.67	-	-	**4**	**6.67**
Total		**50**	**83.33**	**10**	**16.67**	**60**	**100.01≈100**

Source: Research Findings, 2015

4.2.5 Households Size of Respondents

The study went further on revealing the size of the household of the respondents. Household analysis was important in the study because, poverty reduction efforts of an individual or family can be affected by the number of family members or relatives who rely on a bread winner's efforts to meet their requirements. To meet the objective, respondents were asked to mention the number of dependents they have. The data revealed that, 44 (73.33%) owned family ranged between 1-2 members, 15 (24.99%) owned family ranged between 3-4 members and 1(1.67%) owned family which had 5 and above members. The household size of respondents is summarised in Table 4.5

Table 4.5: Households Size of Respondents

S/N	Dependents	Category of Respondents					
		Youth		Officials		Total	
		No	%	No	%	No	%
1	1-2	39	65.00	5	8.33	**44**	**73.33**
3	3-4	10	16.67	5	8.33	**15**	**24.99**
4	5 +	1	1.67	-	-	**1**	**1.67**
Total		**50**	**83.33**	**10**	**16.67**	**60**	**99.99≈100**

Source: Research Findings, 2015

4.2.6 Occupation of Respondents

Respondents were asked to mention their occupation. The findings show that, 48 (80.00%) respondents were farmers who were involving themselves in cultivation of cereal crops and horticultural products. Cereal crops produced by the farmers were maize and paddy. Horticultural products cultivated are tomatoes, curly flower, green pepper, eggplant, carrots, okra, Irish, potatoes, beans, pumpkin and cabbages. Also, 2 (3.33%) were businessmen and women specialising in buying and selling horticulture products and 10 (16.67%) were government officers including Community Development Officers(CDO), District Agricultural Development officer (DAICO), Ward Executive Officers (WEO), Councilors, Ward Executive Officer(WEO) and Extension officers. Table 4.6 summarises the findings about occupation of respondents.

Table 4.6: Occupation of the Respondents

S/N	Occupation	Category of Respondents					
		Youth		Officials		Total	
		No	%	No	%	No	%
1	Farmers	48	80.00	-	-	**48**	**80.00**
2	Business	2	3.33	-	-	**2**	**3.33**
3	Employed	-	-	10	16.67	**10**	**16.67**
Total		**50**	**83.33**	**10**	**16.67**	**60**	**100.00**

Source: Research Findings, 2015

4.2.7 Annual Income Earned by the Respondents

Under this part, respondents were asked to provide information about their annual income. Through questionnaires respondents to identify the income group they fall. The study found that 6 (10.00%) respondents earned Tshs 100,000 - 500,000 while 8 (13.33%) respondents earned TShs 500,001 - 1,000,000 and 7 (11.67%) respondents earned TShs 1,000,001 - 1,500,000. On top of that 18 (30.00%) respondents earned Tshs 1,500,001 - 2,000,000 and 17 (28.33%) respondents earned Tshs 2,00,001 and above. There were 4 (6.67%) respondents who were unable to state their income. They said they didn't know their income level since they earned a small amount of money which was difficult for them to remember. Table 4.7 summarises the findings about annual income earned by the respondents.

Table 4.7: Annual Income of the Respondents

S/N	Income Earned Per Year (TShs)	Category of Respondents					
		Horticulture Producers		Officials		Total	
		No	%	No	%	No	%
1	100,000-500,000	6	10.00	-	-	6	10.00
2	500,001-100,0000	8	13.33	-	-	8	13.33
3	1,000,001-1,500,000	7	11.67	-	-	7	11.67
4	1,500,001-2,000,000	14	23.33	4	6.67	18	30.00
5	2,1000,000 +	11	18.33	6	10.00	17	28.33
6	Don't know	4	6.67	-	-	4	6.67
Total		**50**	**83.33**	**10**	**16.67**	**60**	**100.00**

Source: Research Findings, 2015

4.3 Type of Horticultural farms Owned by the Youth

Consistency with the objective, the researcher asked the youth to identify the main horticultural farms owned by the youth. Respondents were asked if they involved themselves in horticultural activities and youth were required to explain types of horticultural products they grew in their farms. The question was asked to 50 youth who owned farms. The study found 21 (42.00%) respondents owned tomatoes farms which ranged from half an acre to five acres. It was found that, tomatoes are cultivated once per a year. Youth buy tomatoes seeds from agricultural shops and plot preparation start in a period between March and May. The activity is followed by clearing tomato farms, excavating the land by using hand hoes or tractors. Tomatoes are planted in farms when seed plots reach three weeks. It was found that, in some cases youth were responsible irrigating their farms when soil was dry. It takes a period between three to four months before harvesting. Thus, tomato harvesting begins around July, August, September and October. Harvested tomatoes are sold to local markets in Mlali market or to business men and women from Morogoro town and Dar es Salaam City.

Cabbage farms are the other type of horticultural farms owned by the youth in the area. The study showed 14 (28.00%) youth owned cabbage farms which ranged from half an acre to two acres. Cabbage seeds are bought from agricultural shops in Morogoro town. The farms are cultivated during the period when there was low rate of rainfall or during the period when there was average rainfall. It was explained that, cabbage can be cultivated twice in a year, during the rainy seasons and during the dry season. In the dry season youth are responsible irrigating their farms every day. Cabbages from youth farms are sold at Nyandira and Mlali markets. Cabbages are also sold to brokers or large traders from towns. Traders from town usually come in village during the harvesting period.

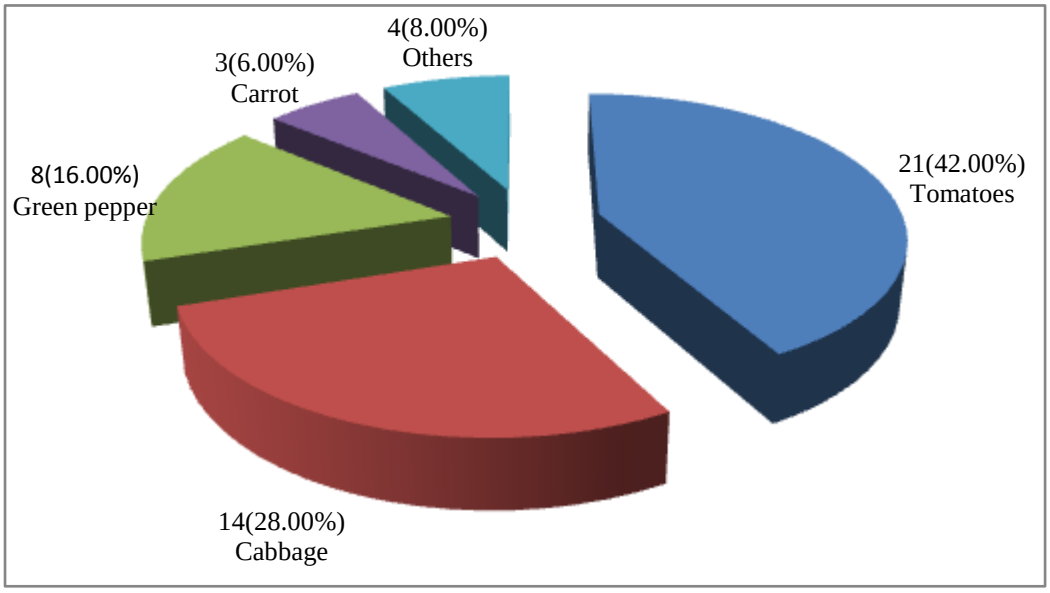
Green pepper farms are other type of farms which are owned by the youth in the area. Finding showed 8 (16.00%) respondents own green pepper farms. Basing on the researcher's observation, the farms owned by the youth are found in small pieces of land ranging from quarter to half an acre. Most of these farms are found along

water sources such as rivers. Green peppers are harvested after three months and then sold to local markets and bigger markets in towns.

It was further found that, 3 (6.00%) respondents owned carrot farms which were cultivated in small pieces of land close to water sources. The respondents stipulated that, they owned carrot farms near water sources since carrots need a lot of water thus, they opted to cultivate along livers to avoid irrigation inconveniences due to poor irrigation mechanisms.

The study found 4 (8.00%) respondents owned other horticultural farms including egg plants farms, curly flower farms and Irish potato farms. The researcher observed the farms are in less than half an acre. It was explained, the farms are found in small pieces because people do not invest more efforts in cultivating those vegetables since such kind of vegetable are not popular and the market for the vegetable was not wide comparing to tomatoes, cabbage and green pepper which are more consumed by many people in towns and villages . Figure 4.1 presents the information about types of horticultural farms owned by the youth.

Figure 4.1: Horticultural farms Owned by Youth



Source: Research Findings, 2015

The above findings suggest that tomato farms are owned more than other vegetables farms. It was explained to the researcher that youth prefer tomato production because they earn money in a short period not exceed four months. It was further explained that youth prefer cultivating tomatoes because they can harvest tomatoes more than two times in the same farm for a single season. It was stated that, market availability for tomatoes attract many people to participate in the sector. Despite tomatoes being produced by large number of people, it was explained to the researcher that, some respondents are planning to cultivate other vegetables including eggplants because farmers have been losing many tomatoes due to poor storage as a result many tomatoes end up rotting.

4.4 Performance of Youth in Horticultural activities

Performance of horticultural farms in the district was studied by looking on four major variables; people's understanding and perception of horticultural activities, source of information about horticultural activities, rate of youth participation in horticultural activities and quality and quantity of the products produced.

4.4.1 People's Understanding and Perception of Horticultural activities

It was thought important to get understanding and perception of the respondents about horticulture. In this view, all respondents including government officials were asked to rate by picking one of the answers which were constructed in rickets scale. The answers were labeled as "Very important", "Important", "Satisfactory," "Not important" and "Undecided". The finding showed 2 (3.33%) respondents rated very important, 14 (23.33%) respondents rated important, 34 (56.67%) respondents rated satisfactory, 10(16.67 %) rated not important and no respondent rated undecided. Table 4.8 summarises the findings about people's understanding and perception of horticultural activities.

Table 4.8: People's Understanding and Perception of Horticultural activities

S/N		Category of respondents					
		Youth		Officials		Total	
		No	%	No	%	No	%
1	Very Important	1	1. 67	1	1.67	**2**	**3.33**
2	Important	12	20.00	2	3.33	**14**	**23.33**
3	Satisfactory	29	48.33	5	8.33	**34**	**56.67**
4	Not Important	8	13.33	2	3.33	**10**	**16.67**
5	Undecided	-	-	-	-	**-**	**-**
Total		**50**	**83.33**	**10**	**16.67**	**60**	**100.00**

Source: Research Findings, 2015

From the findings, it can be concluded that people's understanding and perception of horticultural activities for most of the people was important and they had a positive perception about horticulture as it was explained that horticulture played a role of increasing their income because for a long time they have been engaging in horticulture and they regard horticulture as their main source of income. On the other hand, few respondents rated as not important. Respondents who regarded as not important revealed horticulture does not help them much in their life due to some limitations including poor yield harvest. The researcher had the view that some farmers had poor yields harvest probably due to lack of modern way of cultivation and poor knowledge on controlling vegetable diseases.

4.4.2 Sources of Youth Information about Horticulture

The researcher asked the youth where they got information about horticultural production. The researcher found that, 2 (3.33%) respondents got information through listening agriculture programmes on media including listening on radio. There were 12 (20.00%) respondents who obtained knowledge from government officers including ward extension officers. Also, 18 (30.00%) respondents got information from NGOs. Under this part NGOs mentioned including MVIWATA, TAHA and private agro-shops. Respondents explained that, they got information about horticulture through seminars and meetings which were held by NGOs in their villages. Additionally, the findings showed that 6 (10.00%) respondents got the information from academic institution expertise. They explained that, SUA played

great role in educating farmers on various methods of cultivating vegetable and overcoming vegetable diseases.

Lastly, 22 (36.67%) respondents revealed that they were obtaining the information from fellow farmers. Youth with low understanding about horticulture sought knowledge from other farmers with more experiences. Table 4.9 summarises the findings about sources of horticulture information.

Table 4.9: Sources of Horticulture Information

S/N		No	%
1	Media	2	3.33
2	Agricultural Officers	12	20.00
3	NGOs	18	30.00
4	Academic Institution	6	10.00
5	Farmers	22	36.67

Source: Research Findings, 2015

4.4.3 Rate of Youth Participation in Horticulture

The researcher sought information about the rate of youth involvement in horticulture. It was important to understand the rate of youth involvement in horticulture in different periods in order to understand the trend of youth participation in the sector. There were no adequate data from government offices showing the number of youth in the ward. According to the Tanzania national Census (2012), 35.1 % of the population in Tanzania are the youth. Thus, the percent of the youth on national level was used to estimate the number of youth from the population of 23,230 residents of Mlali ward. Thus, 35.1% of youth in the ward was estimated to be 8,154. Based on the above view, the findings about rate of youth participation in horticulture show that there were 216(0.93%) youth participating in horticulture for the year 2012, also 622(2.68%) for the year 2013 and 744(3.20%) for the year 2014. Table 4.10 summarises the findings about rate of youth participation in horticulture.

Table 4.10: Rate of Youth Participation in Horticulture

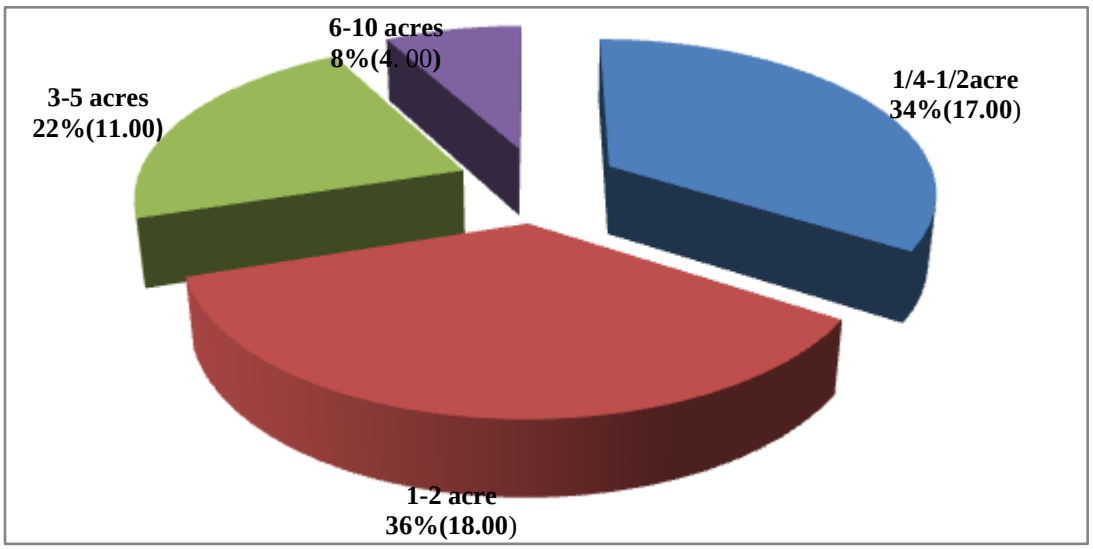
S/N	Year	Youth		Total	
		No	%	No	%
1	2012	216	0.93	216	0.93
2	2013	622	2.68	622	2.68
3	2014	744	3.20	744	3.20

Source: Research Finding, 2015

4.4.4 Size of Horticulture Farm Owned by Youth

It was important for the study to explore about the size of the farm cultivated. Asking the respondents would serve to understand the correlation of efforts invested in horticulture cultivation with the yield obtained. It was found 17 (34.00%) respondents cultivated between a quarter to half acre, 18 (36.00%) respondents cultivated between one to two acres, 11 (22.00%) respondents cultivated between three to five acres. The last group which comprised 4(8.00%) respondents explained that they cultivated six and above hectares. Figure 4.2 summarises the findings of size of horticultural farms owned by youth in the study sites in Mvomero District.

Figure 4.2: Size of Horticulture Farm Owned by Youth



Source: Research Findings, 2015

4.4.5 Quality and Quantity of Products Produced

The researcher wanted to understand the quality and quantity of products produced. The researcher asked questions about tomatoes-the most grown crop. Youth explained to the researcher that the quality of tomatoes produced were good. Also, the researcher observed that the quality of tomatoes produced were attractive and good in quality. Regarding the quantity of tomatoes, there were 21 (42%) tomatoes producers as shown on Figure 4.1. In this regards, youth were asked the amount of tomatoes they produced. Based on the observation of the researcher tomatoes were being packed and measured in terms of baskets "Tenga" where baskets were estimated to have 20kgs. For the year 2012 the finds show 3(6%) youth were able to obtain 50-150 baskets of tomatoes, 6(12%) youth obtained 150-250 baskets of tomatoes. Also, 8(16%) respondents obtained 250-350 tomato baskets, 3(6 %) youth were able to obtain 350-450 tomato baskets and 1(2%) youth obtained 450-550 baskets of tomatoes.

In 2013 the finding showed 2(4%) youth were able to produce 50-150 baskets of tomatoes, 6 (12%) respondents were able to harvest 150-250 baskets of tomatoes while 4 (8%) respondents harvested 250-350 baskets of tomatoes. It was found that 6 (12%) respondents harvested 350-450 baskets of tomatoes while 1(2%) respondent harvested 450-550 baskets and 2(4%) respondents harvested more than 550 tomato baskets.

In 2014 the findings show that 4(8%) youth were able to harvest 150-250 baskets, 6(12%) respondents harvested 250-350 tomato baskets , 2(4%) harvested 350-450 tomato baskets and 4(8%) respondents harvested 450-550 baskets of tomatoes while 5(10%) harvested more than 550 baskets of tomatoes. Table 4.11 summarises the findings about quality and quantity of products produced.

Table 4.11: Quantity of Products Produced

Year	Type of Horticulture	Basket " Tenga"	Number	Percentage
2012	Tomatoes	50-150	3	6
		150-250	6	12
		250-350	8	16
		350-450	3	6
		450-550	1	2
		550+	-	-
2013	Tomatoes	50 – 150	2	4
		150-250	6	12
		250-350	4	8
		350-450	6	12
		450 -550	1	2
		550+	2	4
2014	Tomatoes	50-150	-	-
		150-250	4	8
		250-350	6	12
		350-450	2	4
		450 -550	4	8
		550+	5	10

Source: Research Findings, 2015

Based on the findings above, the quantity of tomatoes produced has been increasing for the past three years.

The increase of the amount of tomatoes produced was probably linked with the expansion of tomatoes markets and awareness increase in people about the role tomatoes can play in increasing income.

It was also observed that the quantity of products produced were good. The good quality of tomatoes produced was probably attributed with the proper use of insecticides and use of other modern ways of farming adopted by most of farmers.

Generally, the performance of youth in horticulture particularly in tomato production showed positive responses in the aspects of perception of youth on horticulture, rate of youth involvement in horticulture was increasing for the past three years. The increasing recognition of information about methods of horticultural production probably indicate that youth will be able to improve life hood and reduce the level of poverty due to improvements in horticulture performance. However, the findings

contradict with the claim from DCDO given through the interview when was asked about the performance of youth in horticulture. For example, one respondent at Mgeta complained by saying:

> *The youth in this district are lazy they don't use available opportunities in agriculture, for example last year (2014) the youth were given loan but no one was able to pay back the loan and all the projects they started has failed and some they run to towns soon after they were given loans.*

4.5 Socio-economic Outcomes of Youth Participation in Horticulture

The study went further assessing the social and economic outcomes of youth participation in horticultural production. The researcher asked respondents to mention socio-economic benefits achieved as a result of participating in horticultural production. The results are presented in the following sections:-

4.5.1 Social Outcomes Obtained from Horticultural production

The main purpose of the study was to assess the outcomes of youth participation in horticulture and poverty reduction. The researcher asked the 50 youth to explain the social outcomes they obtained as a result of participating in the horticultural activities. The social outcomes obtained from horticulture were; house construction, ability to pay education expenses, ability to meet health services, ability to own means of transport, network expansion and improve daily needs. The findings about social outcomes from horticultural production are summarised in Table 4.12

i. House Construction

The study showed 7(14.00%) respondents benefited from horticulture farming by constructing houses. House construction was operationally defined to include, houses which were constructed, or houses which were in the process of construction or renovated. The constructed houses were categorised as poor houses, less poor houses and improved houses. Categorisations of houses based on specific criteria including, roof type, wall type, window size and floor type. Poor houses were houses with mud wall, without cement floor, very small windows and thatch roof. Less poor houses were houses with earth walls with cement floor, small windows but with corrugated

iron sheets roof. Improved houses were houses with cement or burnt brick wall, cement flow and medium window sized per room and iron corrugated roof.

Based on the observation of the researcher, new constructed houses had one sitting room and two or three rooms. The interviewee explained that, before building new houses they were living in poor houses which were made by mud wall, small windows and thatch roofs. Also, those who renovated their houses by putting new doors, windows and cemented flow explained that before repairing their house, most of the windows were covered by curtains and doors were made of old iron sheet. But, after involving in horticulture farming they have managed to put medium windows and doors made from timbers.

ii. Ability to Pay Education Cost

Education is very important for both personal and national development. Good level of education helps to break the chains which held someone into poverty trap (URT, 1999). The study found that, horticulture helped 4(8.00%) respondents to pay education cost for their children or young brothers and sisters in secondary and primary schools. It was explained that before engaging in horticulture farming, it was difficult for parents to get money to afford school fees, school contributions and school stationeries.

Interviewees explained among other reasons, students failed to attend school because their uniforms (shorts, shirt, shoes, skirts or trouser) were very old and their guardians or parents would not afford the school expenses. Therefore, some students were reluctant to attend studies since they were not ready to bear the shame of clothing on rags. They added, before engaging in horticulture farming, some students were dropping their studies because their parents failed to afford school contributions. But, since parents and guardians started participating in horticulture farming parents and guardians were able to afford paying school costs and the number of children attending school has improved. In interview with one of the respondents at Mgeta said:

…it was so desperate that my child was not attending school because her school uniforms were very old and she had no shoes to put on. But now am grateful tomatoes and cabbage are helping me to meet some education expenses. At least I can afford school contributions, uniforms for my child and other minor expenses.

iii. Ability to Meet Health Services

Horticulture has helped 3(6.00%) respondents to meet health services. Before participating in horticulture farming, it was explained that some youth failed was to attend for better treatment in dispensaries or hospitals. Even attending for treatment at the regional government hospital in Morogoro town was difficult because the youth had little amount of money which could not absorb hospital expenses. Even paying medicinal expenses for their close relatives such as young brothers and sisters was very difficult. In this case, when they were sick they opted to use herbs which would cost them a long period to cure or sometimes it would claim deaths due to poor treatments. It was reported that, after people started to participate in horticulture farming they were able to pay health insurance which allow them to access health services when they are sick.

Furthermore, cost and time spent in treating diseases has been reduced because modern health services do not cost long period in treating people compared to the time when they were using herbs. Even costs spent in treating disease has decreased because people's health is stable compared to the time when they were not involved in horticulture farming.

iv. Ability to Own Means of Transport

The study showed further that, 4(8.00%) respondents were able to improve transport means as a result of involving themselves in horticulture farming. The means of transport in this study include motorcycles and bicycles. The means of transport in many parts of Mvomero District in rural area are important for transporting vegetable and for other personal uses. Respondents reported that, they have avoided the problem of paying transport charges for short trips within the area. Also, before involving in horticulture youth were supposed to walk or hire bicycles to reach places where car transport facilities were not available. In additional, people hired

transport to carry horticultural products from farms to market places something which cost higher transport charges. But, since they began involving themselves in horticulture 2(28.6%) respondents managed to buy transports means including motorcycles. It was found that 5(71.4%) respondents were able to buy bicycles. Based on the researcher's observations, the bought transportation means were used to carry vegetable from farms to rural markets in the villages. It was further observed that, some of the youth used their motor cycles to carry passengers as "Bodaboda".

v. Network Expansion

The study found that 2(4.00%) respondents explained horticulture helped to expand business networks with other horticultural business people from big towns such as Morogoro and Dar es Saalam. Network expansion was reported to reduce other expenses to horticultural producers. The interviewee explained that before expanding the network, selling products such as tomatoes was costing high amount of money for youth who wanted to sell their products in towns such as Dar es Salaam. Youth were supposed to pay fare, food and accommodation expenses. Furthermore, market information availability was difficult to access before building the network. Currently, they can access information on vegetable price through communicating to their buyers who are in town by using mobiles.

In this sense, they have avoided paying travelling expenses, meal and accommodation expenses when they are in towns. In an interview with one of the respondents at Mgeta said:

> *If I want to know about tomato price in Dar es Saalam I call one of my friends who is a tomato buyer in Dar-es-Salaam, we came to know each other through selling and buying tomatoes and we trust each other, Since I knew that man, I do not go there to sell tomatoes I only hire a car to take tomatoes from here and I receive my money through M-Pesa or Tigo Pesa. The network is important as it reduces costs such as paying bus fare you see…?"*

vi. Improved Basic Needs.

The researcher found that 12 (24.00%) respondents explained to have improved their daily basic needs. Improved basic needs in this study means improved food and

clothes. Improvement on basic needs on the aspect of food was examined by looking at the rate of meals per a day. The study found that, before engaging in horticulture some respondents were missing one of three meals per day, that is; they were missing breakfast, lunch or dinner. The respondents added that they were eating the same type of food for three days consecutively. In interview with one of the respondents at Mlali claimed:

> *Before participating in horticultural activities the situation was worse…. Sometimes in my family we were eating ugali and vegetable as lunch and dinner three days consecutively because we did not afford other foods like rice. But now we can buy different types of food. We can buy rice or other food and at least a kilo of meat for a week."*

Also, it was revealed that even those who were able to afford eating three meals in a day were eating similar type of food such as ugali, vegetable, potatoes and cassava. Buying other type of food such as rice, meat and beans was difficult. But currently, people can afford eating different types of food including rice and meat. The study revealed that, respondents were able to buy at least meat once in a week and eating rice three days in a week. It was studied that, rice and meat are regarded as among of the best food in the area. In addition, clothing wise respondents explained to have improved their clothing because before engaging in horticulture they were buying second-hand clothes" mtumba" after four or five months. But now currently, they are able to buy ''mtumba'' and some new clothes of good quality from shops in an interval period between two to three months. Table 4.12 summarises the findings about social outcomes from horticulture.

Table 4.12: Social Outcomes Obtained From Horticulture

S/N	Area of Improvement	No	%
1	House Construction	7	14.00
2	Ability to Pay Education Cost	4	8.00
3	Ability to Meet Health Services	3	6.00
4	Ability to Own means of Transport	4	8.00
5	Network Expansion	2	4.00
6	Improved Basic needs	12	24.00

Source: Research Findings, 2015

From the above findings, the studies showed that horticulture have helped people to improve their social and economic life. On the other hand, some respondents were skeptical about horticulture in improving social conditions. The interviewees claimed horticultural productions have little impact on their lives because it does not give much income as a return.

4.5.2 Economic Outcomes Obtained From Horticultural activities

Also, the researcher asked the respondents to mention and explain economic outcomes obtained from horticulture. The economic outcomes explained are household income increase, ability to save and employment creation. Table 4.14 summarises the findings of economic outcomes from horticulture.

i. Household Income Increased

Table 4, 12 showed 10(20.0%) respondents explained that horticultural activities helped the youth to get the amount of money which helped them to increase their household income. They explained that horticulture has increased household income because the youth in Mlali and Mgeta can sell horticultural products and have amounts of money which raise the level of their household income.

ii. Ability to Save

The result further showed that 4 (8.0%) respondents were able to save some amount of money obtained from horticulture farming. They said that the saved money was used to buy vegetable seeds, fertilizers and meeting excavating expenses for the next new season. Before, participating in horticultural farms youth were facing difficulties to implement horticulture in the next new season because money which was obtained before horticulture was insufficient for future horticulture faming practice.

iii. Employment

Additionally, 4 (8.0%) respondents explained that horticulture helped the youth to find an opportunity for employment which increased income for the poor households. The youth explained that before engaging in horticulture youth had unreliable work such as brick making which did not guarantee employment since

brick making activities are done seasonally during the dry season. They said staying idle compelled most of youth to stay without any employment. Maertens (2006), McCulloch and Ota, (2002), Weinberger and Genova (2005) made a note that greater employment opportunities result in greater income for the poor. Thus, through employment youth in Mvomero District were able to increase their household income because horticulture provided employment for the youth.

Table 4.13: Economic Effects Obtained From Horticultural activities

S/N	Area of Improvement	No	%
1	Household Income Increased	10	20.00
2	Ability to save	4	8.00
3	Employment	4	8.00

Source: Research Findings, 2015

4.6 Factors Influencing youth Horticultural activities

The study identified factors influencing horticultural activities. To achieve easy understanding, factors influencing horticulture were divided into two main parts.

The first part identified factors favoring or promoting youth horticultural activities and the second part identified factors limiting youth horticultural activities.

4.6.1 Factors Facilitating Youth Horticulture in Mvomero District

The researcher looked at the factors promoting youth horticulture because the study was interested in identifying the factors accelerating youth's participation in horticulture and explore some opportunities which support youth horticultural activities. To achieve the interest of the study respondents were asked to explain different factors favoring horticulture. To get the answers a total of 60 respondents both key informants and youth participating in horticulture were asked the question in order to understand what people thought were the facilitating factor for youth horticulture. The factors explained were: water availability, building of horticultural service centre, support from the government and NGOs, willingness to participate in horticulture and poverty. Table 4.15 summarises the findings about factors facilitating youth horticultural activities.

i. Water availability

The study showed that, 20 (33.33%) respondents were favoured by water availability. Interviewees explained that although water does not reach all horticultural producers, the available water serves in production of vegetable which contributes to improving the economic status of the youth participating in horticultural farming. The respondents added that, the availability of water was attributed to presence of Mgeta and Mzinga rivers which pass water throughout the year. The emphasis was on setting good water mechanisms from water sources for youth farms. In the interview, one of the respondents commented that;

> *For sure water for us here is not a big problem, may be for the farms in upper lands around mountains, I cultivate cabbage and other horticultural crops because my farm is nearby water from this river.*

Although, the youth commented about water being not a big problem in irrigating vegetable, there is need to improve horticultural activities by building irrigation channels for better implementation of youth horticultural activities.

ii. Building of Horticultural Services Centre

The research found that 8 (13.33%) horticulture was favoured by the construction of horticultural Centre in Mkuyuni village in Mlali ward. The respondents explained that, the building of the horticultural centre will strengthen horticultural activities since they are expecting to increase knowledge on horticultural production through services provided by the centre. Furthermore, the centre serves as a market, hence the building of horticultural centre will encourage other people to engage in horticulture because they expect that poor vegetable storage problem will be reduced thus, they will avoid storage risks of their products which ends up rotting.

Figure 4.3: Picture 1 Construction of Farmers Horticultural Service Centre in Mlali

Source: Research Findings, 2015

iii. Support from the Government and NGOs

The respondents states that, the government and NGOs supported horticultural production. Finding showed that 5 (8.33%) respondents explained that the government and NGOs' support are opportunities to the farmers. Government agencies such SUA conduct agricultural researches and its findings benefit the farmers. Besides, SUA conducts seminars to educate horticultural farmers on disease control in Mgeta and Mlali wards. Furthermore, the government employs extension officers and sometimes provides to the farmers agricultural subsidies such as fertilizers which help them to improve the agriculture sector. Also, NGOs such as TAHA and MVIWATA brings to farmers agricultural experts to deriver seminars on modern ways of horticulture and market opportunities.

iv. Cooperation of Farmers

Apart from the explanations above, 14 (23.33%) respondents said that, cooperation among horticultural producers was a stepping stone towards smooth implementation of horticultural activities. The respondents explained that cooperation among horticultural producers attract other farmers and youth to enter into the sector. The cooperation among farmers simplify implementation of horticultural activities since

it is possible for farmers to share information about ways of using fertilizers, insecticides and sharing information about market opportunities. Additionally, horticultural producers had small groups which shared the information such as price fixing and support by borrowing to each other horticultural tools such as water cane.

v. Poverty

The study showed that 8(13.33%) respondents participate in horticulture because they are living under poverty. The interviewed youth explained that horticulture was not their area of choice they wanted to work as their means of earning income. The respondents explained further that horticultural activities are very difficult and they had the view that horticulture is a work for uneducated people. The assertion corresponds with observation made by FANRPAN (2012) which explained that some youth in Tanzania regard horticulture and agriculture as old fashion job for poor or uneducated people due to shortage of modern ways in the industry.

vi. Willingness to Participate in Horticulture

It was also found that 5(8.33%) respondents participate in horticultural activities because they are voluntarily willing to involve themselves in the sector. Respondents explained that horticulture is not their only income generating activity. But, they are attracted in the sector because they feel good to work in horticultural activities. Table 4.14 summarises the findings about factors facilitating youth horticultural activities.

Table 4.14: Factors Facilitating Youth Horticultural activities

S/No	Factors Facilitating Horticulture	No	%
1	Water Availability	20	33.33
2	Building of Horticultural Service Centre	8	13.33
3	Support from Government and NGOs	5	8.33
4	Cooperation of Farmers	14	23.33
5	Poverty	8	13.33
6	Willingness to Participate in Horticulture	5	8.33

Source: Researcher's Findings, 2015.

4.6.2 Factors Limiting Youth Horticultural production

Despite the above factors facilitating youth horticulture, youths in Mvomero district are faced by limitations which set back horticultural activities.

The limitations found in this study were also found by MMA (2008) and Mbiha (2013) in their study about horticulture. In this part all 60 respondents were asked to mention and explain the factors limiting youth horticulture. The limitations explained were high cost for vegetable inputs, networking problems, shortage of land and water availability, poor storage and preservation facilities, lack of horticulture education, shortage of capital, poor application of farming technology, bureaucracy on subsidies distribution, transport problems and laziness. Table 4.16 summarises the findings about factors limiting youth horticulture in Mvomero District.

i. High Cost of Vegetable Inputs

The study showed that 12(20.00%) respondents faced high cost for vegetable subsidies. Horticulture inputs including fertilizers, insecticides and hybrid seeds were explained to be very expensive for the youth to the extent of failing to provide service to the vegetable farms. They reported that, despite high cost of insecticides, farmers need to treat vegetables several times since single application of insecticides cannot prevent new insects to attack vegetables. Similarly, respondents explained that despite high prices for subsidies sometimes even the quality of subsides was questionable as they reported that some were sold with fake or less quality subsidies. In interview with one respondent at Mlali said:

> *I bought tomato seeds, my expectations were to get big tomatoes but when the plant was ready to produce yields, the tomatoes had some weal and small, even my neighbours faced a similar challenge.*

There was a view that, there was some bias in provision of inputs. The priority was on certain crop producers such as, maize and paddy. Horticulture was given less priority. This view complies with the study by Cooksey (2012) who concluded that fertilizers in Tanzania are used mainly on maize, tobacco and coffee as well as

varying between regions whereby the southern highlands big four regions consume more.

ii. Networking Problem

The study showed 4(6.67%) respondents were facing network problem as a limitation in youth horticultural activities.

Network problem in this study means transportation problem which were directly linked to market access problems. Respondents explained that, youth in Mgeta rely on Nyandira market and some farmers from Mgeta brought their vegetable at a local market in Mlali in which some villagers in Mlali met at the same market. Transport in the place posed challenges since roads were very rough especially in Mgeta. IFAD (2003) contended that impassable roads in rural communities weaken the ability of producers to buy inputs and sell their crops as well as leading to high transport cost. The contention reflects a similar situation in Mgeta and Mlali where vegetables are carried on head, bicycle, and motorbike or in minibuses with high transportation charges ranging between Tsh3,000 to 4,000 for a bag of weight ranging between 30 to 40 kilogrammes to cover a distance not exceeding 30 kilometres. Transport facilities help to improve the economy and reduce poverty. This complies with the explanation that, transport reduces poverty by increasing economic efficiency and lowering operational cost and price (www.ifrtd.org, 2003).

Market infrastructures especially in Mlali market were very poor. It was observed that, horticultural producers face the problem of unreliable market and poor market infrastructures where vegetables are laid down along the road. Mtaita and Msuya (2006) pointed that lack of commercial marketing at a village has hindered farmers' interest to improve the management of horticulture and encouraged them to maintain subsistence level of technology and production. In addition, farmers face another challenge from buyers (brokers) who misinform the farmers about product price in big markets of Dar es Salaam or Morogoro which are the ending points for most of the horticultural products bought by businessman and brokers. Brokers take advantage of information asymmetry on the price of vegetable by telling wrong

information to the farmers. They often say vegetable price has gone down in big market since there are high supply of vegetable thus farmers in Mlali and Mgeta sell their products at a low price.

Figure 4.4: Picture 2 Market Place in Mlali Ward

Source: Research Findings, 2015

iii. Shortage of Land and Water Availability

There were 3(5.00%) respondents who mentioned land and water availability for horticultural farmers was an obstacle. In Mgeta land availability was a problem since most of the land was covered by mountains. Farmers in Mgeta cultivated in steep slopes along the mountains or in small pieces covering 15-20 square meters along the rivers. Besides, distributing water in highland vegetable farms was limited because

the youth did not own water pumps for water supplying. It was revealed that some respondents hired the land for cultivation in which one acre cost Tsh 60,000 for single yield harvest.

Figure 4.5: Picture 3 Shortage of Water Availability in Mlali Ward

Source: Research Findings, 2015

Besides, Mlali ward water shortage was mentioned as an obstacle in youth horticulture. Respondents revealed that, recently (6-8years) water has been an acute problem. Rivers which were flowing throughout the year have become dry since some years back people were cutting trees near water sources. Water shortage was described to be more serious during the summer. It was witnessed that some of the youth rely on poor flowing water from rivers accumulated in holes for two or three days consecutively before water was carried in buckets. It was also revealed that, land was a problem because people with large income had bought large land while the majority remain landless. During interview one of the respondents claimed that land has become a problem because investors and some people bought large tracts of land in the ward.

iv. Poor Storage and Preservation Facilities

There were 6 (10.00 %) respondents who explained that, poor storage of the vegetable was serious when vegetable got ready to be harvested. Vegetables are perishable, thus when harvested in large quantity some vegetable end up rotting or losing the quality before they are sold. It was explained that, the present way of storing vegetable was done locally.

However, the method does not prevent vegetables from rotting or losing the quality especially for tomatoes and green pepper. This challenge goes further than that as it was explained that even during car transportation vegetables are carried together with other stuffs such as charcoal and timber. Thus, maintaining vegetable quality was revealed to be difficult in implementing youth horticultural activities.

Figure 4.6: Picture 4 Rotten Horticultural Products in Mlali Due to Poor storage

Source: Research Findings, 2015

v. Lack of Horticulture Education

The study showed that, 8(13.33%) respondents were facing lack of horticultural education. Respondents explained that, it was difficult for them to read and follow the instructions written on subsidies labels which are usually written in English language. It was witnessed that some farmers mix two different insect sides to treat plants while mixed insecticides had similar ingredients which treat similar plant diseases. In addition, horticultural producers do not value much knowledge provided by agricultural experts because there was low rate of farmers attending agricultural seminars. Also, low level of education among the youth was explained as an obstacle in accessing information on market opportunities.

vi. Poor Application of Farming Technology

Application of modern technology in horticulture in the two wards was reported to be a limitation hindering the sector. Respondents explained that horticultural activities were pulled back by some hindrances especially the use of hand hoe for land excavating as a result they spent many days cultivating a small area. It was explained that most of farmers cannot afford the expenses to hire tractors for excavation as a result they opt to use hand hoes. Also, it was explained that respondents lack technical knowledge such as modern ways of cultivation and controlling plant diseases. It was found that 8 (13.33%) respondents reported that most of the youths depend on hand hoe for cultivation or weeding vegetable as a result the got poor harvests. CUTS (2011) say, Tanzanian farmers still lack technical knowledge and inadequate number of extension staff in most districts. Furthermore, the study by NCAER (1980) and Aggarwal (1983) cited in Verma (2002) found that the households owning tractors obtained higher yields than those who did not own tractors. It was observed that, few farmers with enough capital used tractors and other machines like water pumps to irrigate vegetable. But, most of the youth depended on local methods of irrigation like carrying water in buckets. It was observed that the application of poor methods of cultivation existed. For example, there was poor way of distancing vegetables as farmers regard plant distancing as

time wastage. Besides, they said poor technology have resulted in production of poor hybrid seeds which affects the youth in implementing their activities.

vii. Shortage of Capital

The findings showed that, 13 (21.67%) respondents lacked financial and asset capital like land. The problem weakened the implementation of horticultural activities. They revealed that, horticulture needed intensive care in terms of protecting the plants from diseases and keeping the land fertile.

With high price of subsidies they said horticulture can only be implemented by people with large capital. One of the respondents at Mlali stated:

> *If you don't have enough capital, horticulture is difficult. Just imagine, you fail to get good yields from vegetable this season and if capital is not enough how are you going to implement horticulture the next season? You need to buy subsidies, hire labourers and money to hire land if you don't own land, will you manage?'*

viii. Bureaucracy in Subsidies Distribution

Furthermore, 3(5.00%) respondents reported that there had been bureaucracy among officers responsible for subsidies distribution to the farmers. Respondents complained that, subsidies were brought to farmers and distributed to few farmers only and then they were told subsidies (fertilizer bag) got finished leaving some farmers without any other means to get subsidies. They revealed that some unfaithful officers cooperated with businessmen to buy subsidies from officers and sold to the farmers at higher price. Along with this reason, there had been unreliability on subsidies provision. Sometimes subsidies were brought in the middle of the season or at the time vegetable are harvested. Unreliable schedule in provision of fertilizers posed a great limit in implementing horticultural activities

ix. Transport Limitation

Transport is a part and parcel of business. In this view 2 (3.33%) respondents reported to face transport challenges especially in mountainous areas of Mgeta. The available transport means does not favour farmers and businessmen and women to

transport their products. Bicycles, motorcycles, minibuses and few trucks are used to transport vegetables, despite the presence of transport means, still roads are rough resulting in high transportation costs or delays in making vegetables reach the market.

x. Laziness

In addition, 1 (1.67%) respondent mentioned laziness as an obstacle which discourages youth horticulture. In some cases the youth did not put efforts and seriousness in implementing horticultural activities. Some youth tend to give up taking care of the vegetables and some youth stay in centers loitering. Table 4.15 Summarises the Factors limiting youth horticultural activities in Mvomero District.

Table 4.15: Factors Limiting Youth Horticultural activities in Mvomero District

S/N	**Limitations on Youth Horticulture Farming**	**No**	**%**
1	High cost for vegetable inputs	12	20.00
2	Networking problems	4	6.67
3	Shortage of Land and water availability	3	5.00
4	Poor storage and preservation facilities	6	10.00
5	Lack of Horticulture Education	8	13.33
6	Poor Applications of farming technology	8	13.33
7	Shortage of capital	13	21.67
8	Bureaucracy on Subsides Distribution	3	5.00
9	Transportations Problems	2	3.33
10	Laziness	1	1.67

Source: Research Findings, 2015

4.7 Way Suggested to Improve Horticultural activities in Mvomero District

Despite the limitations in horticulture, respondents proposed some remedies. The researcher asked respondents to suggest the measures to improve youth horticultural activities. The question was important to be asked since the researcher wanted to understand what youth perceive are the ways to improve the implementation of horticulture farming. The proposed measures include: reduction of subsidies price, financial support, building of new market place, formation of horticulture unions, diversification of income generating activities, education provision on modern ways of horticultural production, improvement of transport facilities, building of agro-processing industry, quality subsidies control and employing more extension officers. The findings on measures to improve horticulture are summarised in Table 4.16

i. Reduction of Agricultural Input Price

Agricultural inputs price were explained to be high to the youth. The research found that 19 (31.67%) respondents suggested that the government should reduce the prices of agricultural inputs as some of the youth failed to take care of their vegetable farms due to high costs of fertilizers and chemicals.

Reduction of price on agricultural inputs was described as loophole good way for promoting horticulture since production costs for the vegetable farmers can be minimised. They stressed that, if the government won't reduce the price on agricultural inputs, the prospects of vegetable growing in the areas were dim and vegetable activities would not be effective in reducing poverty.

ii. Financial Supports

Similarly important, 11 (18.33%) respondents explained financial shortage in terms of financial capital and lack of ability to access loans in financial institutions was an obstacle limiting horticulture implementation. Most of the youth's financial capitals in vegetable were insufficient because youth had no enough income. Youth added by explaining that lack of opportunities to access loans from banks or other financial institutions such as SACCOS was an acute problem facing them because they lacked collaterals to qualify for the loans. Thus, they suggested the government should facilitate youth by enabling them through provision of financial loans with low interest rate and less complicated conditions. They claimed financial support in form of loans will enable them to improve the production of vegetables by increasing the size of their farms and providing quality services to the plants which will bring profit in return.

iii. Building of New Market Place

The study found that 9 (15.0%) respondents explained the need to build market place in the areas to serve different purposes including storage. They commented that if markets places are built the problem of storage will diminish as farmers will be able to sell vegetables before losing its quality. The emphasis on market building was probably attributed to the fact that, farmers are not sure of customers. Also, farmers

spend many hours waiting for customers in local markets. Improved market attracts customers thus if markets will be built many customers from different places will be attracted by the market and thus, vegetables will be sold within a short time and youth will be able to get time to deal effectively with horticulture in farms. In discussions with one of the respondents in focused group he stated that, the absence of a reliable vegetable market caused discouraged the youth from engaging in horticultural activities.

They insisted the government or investors should help them to build a secure market for the vegetable.

iv. Formation of Horticulture Unions.

On top of that, 2 (3.33%) respondents suggested that farmers should form unions. The formation of the union among farmers was proposed since it could play as a catalyst for development. Youth hold that, when farmers form their union it will serve many farmers to have common agreement on vegetable price against brokers who often fix low prices. Through cooperation they believed there will be strong negotiation power with businessmen than being alone. To achieve the goal, respondents explained the point emphasising that, it was upon their willingness to form the union since it does not cost many resources or need big support from donors.

v. Diversifications of Income Generating Activities

On top of that 3 (5.0%) respondents explained the need of diversifying income generating activities. To improve horticulture farmers should diversify their income generating activities by participating in other economic activities such as cultivation of maize, paddy cassava and livestock keeping. They hold that if farmers rely on horticulture only they might risk their capital due to vegetable price fluctuations, unreliable rainfall and vegetable diseases. Thus, participating in other income generating activities will keep farmers more secured in time of vegetable risks as other income generating activities can fill the loss occurred.

vi. Education Provision on Modern Ways of Cultivation

The study showed 7 (11.67%) respondents suggested provision of education on modern ways of cultivation. Youth emphasised provision of education on sufficient technical and innovative knowledge including improving production techniques, pests and diseases control, harvesting and post harvesting techniques. Also, they suggested that horticultural farming should be mechanised by introducing applications of new technology such as use of drop watering system and use of machines in cultivation and harvesting to increase production are very important.

vii. Improvement of Transportation

Above all, 5 (8.33%) respondents claimed that transportation facilities should be improved to make smooth channel from vegetable producers to the area of consumers (market). The interviewees responded that construction of roads especially in Mgeta ward will provide easy means of transporting vegetable because transporting the vegetables was difficult. The respondents stressed that construction of roads will enable business people to reach distant places in remote areas even in the rainy season.

viii. Building of Agro-processing Industries

Additionally, 1 (1.67%) respondent suggested that the government should convince investors to build the vegetable processing industry. The industry will serve to add value to the products. Furthermore, it was realised that processing industry will not only help to widen market for their products but also will maximise vegetable price by adding values to horticultural products.

ix. Quality Control System on Agricultural Inputs

Also, 1 (1.67%) respondents proposed initiatives to build capacities for agricultural expertise which will help to control the quality of seeds, fertilizers, and disease control chemicals. The initiatives put on quality control system will enable farmers to be assured of agricultural inputs they buy whether they meet the standards or qualify to be cultivated in farms. Respondents emphasised that quality control system will curb the present behaviour of some agents who sell fake subsidies to farmers.

x. Increase Budget in Horticulture

Additionally, 2 (3.33%) respondent suggested that local government should set enough budget for the horticultural sector as currently the government budget on horticulture is insufficient. One of the key informants explained that the available funds were spent on implementation of other agricultural activities including crop production (paddy and maize). The interviewees insisted that the needs of horticultural crops differ from the needs of other cereal crops. Thus, the government should take into consideration the strategic needs of vegetable by allocating enough funds to run the horticultural sector. Together with this measure other mentioned measures were employing more extension officers and supporting initiatives done by TAHA and SUA. Table 4.16 summarises the measures suggested about improving horticultural production.

Table 4.16: Measures Suggested Improving Horticultural productions

S/N	Measures	No	%
1	Reduction of Agricultural Input price	19	31.67
2	Financial support	11	18.33
3	Building of new market place	9	15.00
4	Formation of horticulture union	2	3.33
5	Diversification of income generating activities	3	5.00
6	Education provision on modern ways of horticultural production	7	11.67
7	Improvement of transport facilities	5	8.33
8	Building agro-processing industry	1	1.67
9	Quality control system on Agricultural Inputs	1	1.67
10	Increase budget in agriculture	2	3.33

Source: Research Findings, 2015

4.8 Discussion of the Results

This part presents the discussions of the results about the study titled youth participation in horticulture and poverty reduction in rural areas: a case study of horticultural production in Mvomero District. The discussion is organised according to the research objectives as follows; types of horticultural farms owned by youth in Mvomero District, performance of youth in horticultural farms, social and economic outcomes of youth participation in horticultural activities, factors influencing youth horticultural activities and ways of improving youth horticultural production.

The first specific objective wanted to identify farms owned by the youth in the District. The farms identified included tomato farms which ranged from one up to ten acres and tomatoes were most grown from April, May, June and September. Tomatoes were the most liked horticultural crop because it took a short period to ripe hence youth were able to obtain money. Furthermore, the youth were able to harvest more than once in the same farm thus youth were able to get money more than once in the same farm. Another horticultural crop identified was cabbages of which farms ranged from 3 to 5 acres.

Cabbages were cultivated twice in a year, during the moderate rainy season and during the dry season. Another horticultural crop cultivated is green peppers. They are cultivated in small pieces of land ranging from quarter to half an acre mostly found near water sources. The third crop identified were carrots which were also cultivated along water sources because carrot needs to be irrigated every day. Other horticultural farms identified are eggplants, cauliflower, pie and Irish potatoes which were found in small areas of quarter an acre. These are not cultivated in larger areas because the crops need intensive and high expenses for care.

The second objective of my study looked at performance of youth in horticulture. Key issues were people's understanding and perception of horticultural activities, source of information, size of horticultural farms and quality and quantity of horticulture products produced. To start with people's understanding and perception of horticultural activities, it was found that people have positive perception about horticulture and they understand the importance of horticulture in reducing poverty. Also, some people are aware of the importance of modern ways of cultivation as farmers sought information from media, agricultural officers, and other agricultural experts from NGOs, academic institutions and agro-shops. However, horticultural production among other reasons was affected by low awareness of some youth in getting proper information about horticulture since most of the youth depended on their fellow farmers to instruct them on applying different methods and techniques in horticultural farming. Additionally, the rate of youth participation in horticultural activities was gradually increasing from 2012, 2013 and 2014. The increased rate of youth participating in horticultural activities went hand in hand with the quantity of

horticulture products produced. The positive changes in quantity and quality of horticultural crops produced implied that probably youth will be able to improve their income and youth will be able to improve life status by meeting economic demand.

Regarding socio-economic outcomes of youth participation in horticultural activities the study found that youth were able to; afford daily basic needs, improve their household income, construction of houses, ability to pay education costs , ability to meet health charges, ability to own means of transport, ability to save and business network expansion. Additionally, youth participation in horticulture helped youth to increase their income. The findings have vividly revealed that the income generated from youth horticultural activities helped increasing income level for the youth. In 2012 there were few youths who were able to obtain between TShs 1,550,000 to 2,000,000 and youth did not manage to get an income of 3,000,000 and above, while in 2013 the number of youths who obtained the mentioned amount increased. In 2014 the population for the youth who were able to earn higher income increased tremendously. This means poverty level probably will decrease as the income increases. However, there were observations that some youths were skeptical about horticulture in reducing poverty because their standard of living has not improved much since they started involving in horticultural activities.

Horticultural activities has helped families to pay education expenses such as school fees, school contributions and buying uniforms for respondents with children in primary and secondary schools. The study found respondents were unable to afford the costs before engaging in horticultural activities. Other requirements they were able to meet as mentioned above include heath service charges, ability to save, buy means of transport, network expansion and affording basic needs.

The fourth objective studied on factors influencing youth horticultural activities in Mvomero District. The study found that youth were favoured by some positive factors including water availability. It was observed that, people in Mlali and Mgeta were interested in horticultural cultivation because water was available. It was further noted that in Mgeta people cultivated more different types of horticulture

because water was available throughout the year. While on other side, people areas which faced water problems during the summer mostly cultivated tomatoes. It was observed that there was a need of improving water availability such as constructing water pipes to reach highland farms and some farms located far from water sources. Other factors that influenced youth were building of horticultural centre, support from government and NGOs (TAHA and MVIWATA) which played a great role of delivering seminars on modern ways of horticultural farming. Other factors include cooperation of farmers, willingness of the youth to participate in horticultural activities and poverty.

It was observed that poverty was mentioned as a negative factor which compelled the youth to participate in horticulture. Above all, despite these horticulture supporting factors, it was witnessed that there was a need for the government and development stakeholders to increase their efforts to provide modern ways of cultivation and to reach more youth who were engaging in horticultural farming.

Additionally, youth participation in horticulture was limited by: high cost of agricultural inputs, transportation problems, poor storage/preservation facilities, laziness, lack of education, poor application of farming technology, shortage of capital, shortage of water and land, bureaucracy in agricultural inputs distribution and laziness. The researcher had the view that, holistic approach which involves cooperation of various development stakeholders including individual efforts, government, NGOs, and academia should be adopted to improve the sector.

The last objective was on ways of improving youth horticultural production. Despite the limitations facing youth horticultural activities the remedies proposed were reduction of subsides price, financial support, construction of horticultural services centers, formation of horticulture union, improving provision of modern ways of horticulture, improvement of transport facilities, building of agro-processing industry, instituting a quality control system on agricultural inputs and increasing the budget in agriculture.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS

5.1 Introduction

This chapter presents the summary, conclusions and policy implications of the study. It is organised as follows: (i) summary, (ii) conclusions, (iii) policy implications, (iv) areas for further research.

5.2 Summary

The primary objective of the study was to assess the contribution of youth owned horticultural farms in poverty reduction. The specific objectives were first, to identify the types of horticultural farms owned by the youth; second, to find out the performance of youth in horticultural farms; third, to find out socio-economic outcomes of youth participation in horticultural production; fourth, to identify the factors influencing youth horticultural activities; and fifth, to find out the ways of improving youth horticultural production.

The study was conducted in Mvomero District in Morogoro region at Mlali and Mgeta wards. Data were collected through observations, interview, focused group discussions, documentary review, semi-structured and structured questionnaires. The study comprised 60 respondents who were purposively and randomly sampled. The data were analysed using SPSS, Microsoft excel in descriptive statistics where multiple responses and frequencies were acquired. Data were presented in figures, tables and charts.

Youth in Mvomero District own different types of horticultural farms including tomato farms, cabbage farms, green pepper farms and carrot farms ranging from quarters up to ten acres. Other farms include: cauliflower farms, eggplant farms, pie farms and potato farms in which crops were cultivated in small pieces of land ranging from quarters up to half acres. It was observed that, cultivation in small farms included a mixture of two vegetable varieties in the same farm.

Furthermore, regarding performance of youth in horticulture the findings showed that youth have a positive perception and they regard horticulture as important in their life. There was little awareness about sources of horticultural information and the little available information was not regarded as very important in horticulture. It was found that youth depend most other farmers in the village to get the knowledge and horticultural methods of production.m. Also, the rates of youth participation in horticulture for the past three years (2012, 2013 and 2014) have increased. The increasing rate of youth in horticulture went hand in hand with the increase in quantity and quality of the product produced. The improvement in horticultural produce led to increase in household incomes. Youth's income has been improving in the past three years from the highest income of 200,000-3,000,000 in 2012 the population who were able to earn more than 3,000,000 increased in 2014.However, some respondents rated horticulture as performing poorly in terms of youth's involvement in horticulture.

The study on youth participation in horticulture found that the sector has helped the youth to improve their life in different aspects especially their income and welfare. This was verified by the fact that, youth have benefited by increasing their household income, improving their life by building or reconstructing houses, owning means of transport such as bicycles and motorcycles, ability to pay education cost, ability to get basic needs such as clothes and food. Lastly, youth managed to save some amount of money obtained from horticulture.

Regarding the factors influencing horticulture, the findings showed that horticulture farming was influenced by factors such as water availability, construction of horticulture centre, support from the government and NGOs, cooperation among horticultural farmers, willingness of the youth to participate in horticulture and some were forced to enter into the sector due to their poverty situation. However, there were some questions regarding government support in horticulture.

About the limitations, the study showed that youth participation in horticulture faced challenges which were the stumbling block in implementing horticultural activities.

Limitations holding back the sector were high cost of agricultural inputs, limited network, poor market, poor storage and poor farming technology.

Other limitations included lack of agricultural education, bureaucracy in distribution of inputs; lack of capital and transport problems.

Despite the limitations, there were proposed remedies including: reduction of inputs price, financial support in terms of loans, building of new market place, formation of horticultural unions, education provision on modern ways of horticultural production, improvement of transport facilities, building of agro-processing industry, quality control system on subsidies, diversification of income generating activities and government budget expansion in horticulture sector. It was observed that there is a need to increase awareness to the farmers to value and apply the advice from the agricultural experts in academic institutions.

5.3 Conclusions

From the findings, the identified types of horticultural farms owned by the youth are tomato farm, cabbage farms, carrot farms and green pepper farms. The study found that the youth cultivated mostly tomatoes in farms that ranged from a quarter up to ten acre. Other farms owned are cabbage, green pepper and carrot farms which ranged from quarter up to five acres. On top of that cauliflower, eggplant, pie and potato farms were found in small areas not exceeding half an acre. The study has shown that youth prefer cultivating tomatoes more than other crops because they prefer fast money as tomatoes takes a short period of three to four months before being harvested. It was further found that, youth prefer to cultivate tomato because there was less inconvenience in selling tomatoes due to availability of buyers from towns.

Regarding performance of youth in horticultural production the study found that the number of youth participating in horticulture for the past three years has been increasing leading to the increase in quantity of vegetable produced and income obtained by the youth. Despite the increase in youth horticultural performance, the government regards the sector is under tapped due to, among other reasons, laziness

of the youth and inability of the youth to discover opportunities. Youth are blamed by the government officials of not being creative and hardworking leading to under utilisation of available opportunities in horticulture. Above all, it was found the government has not devoted enough efforts and resources to support the youth.

Moreover, horticulture contributed in reducing the level of poverty since it helped youth to acquire basic needs including food, house construction, owning transport means, income improvement, ability to afford education and health expenses. However, there were some skeptical views from the youth regarding horticulture as a tool for reducing poverty because horticulture has not completely set the youth free from poverty. Youth emphasised that the government should improve the environment of horticultural production from the area of production to the market place. However, the youth did not explain how the government should improve the horticultural environment. Thus, efforts made by youth to improve horticulture should be dealt with multiple efforts approach from development stakeholders.

Furthermore, the study identified factors influencing youth horticultural activities in Mvomero District. The study found that, the implementation of youth horticulture was favoured by factors including availability of water and land, cooperation among farmers, horticultural farmer's service centre, support from the government and NGOs and willingness of the youth to participate in horticulture. There were some complaints from the youth that, the government has not supported horticulture effectively as it has failed to provide subsidies to farmers. Even when subsidies such as fertilizers are brought to farmers some government officials responsible in the distribution of fertilizer were corrupted by rich people who could buy fertilizers and sell to farmers at higher price.

Apart from the above, the study looked on factors limiting horticulture and it was found that the sector was affected by high cost for vegetable subsidies, network problems (poor roads, market), shortage of land and water availability. Other limitations were poor storage, poor vegetable technology, and low level of education among youth, shortage of capital and bureaucracy in subsidies.

In order to improve youth horticulture various measures were suggested. The suggested ways to improve horticulture were, financial support to the farmers, building of agro-processing industry, construction of horticultural services centers, reduction of agricultural inputs price, formation of horticultural union, adoption of modern ways of horticulture, quality control system on agricultural inputs, increasing the budget in agriculture and improvement of transport facilities. It was observed that there was a need to increase awareness among the farmers to value and apply the advice from government agricultural experts and applying agricultural advice given from academic institutions.

5.4 Policy Implications

The findings showed that youth participation in horticulture and poverty reduction faces various limitations. This implies that relevant policies are important to enable youth to participate in horticultural activities so as to maximise the effectiveness of horticulture in reducing poverty. Basing on the research findings the following recommendations for policy actions are important.

Understanding type of horticultural farms and activities done by the youth especially in rural areas is vital. The efforts to help the youth to free from poverty through horticultural activities depend on understanding what the youth are interested in producing. Production of tomatoes in Mvomero was higher than other vegetables in the District. MMA (2008) reports showed that tomato production were higher than any other fruit and vegetable crops. Thus, support in vegetable production should be dealt with great attention especially in tomato production. The support in terms of education, methods and technology in horticulture should be geared in what the youth engaging in horticulture are interested in producing.

The outcomes of youth horticultural production in reducing poverty in rural areas depend on creation of favourable environments for production of horticulture. The implementation of horticultural activities needs availability of enough subsidies at a low cost, financial support in terms of loans or credits, widening horticulture market,

improving transport facilities and construction of agro-industries to add value in horticultural products.

Development stakeholders in the country should focus on knowledge dissemination and raising awareness among the farmers to recognise and apply the knowledge from academic institutions such as SUA and NGOs including TAHA and MVIWATA for the development of the sector. Lastly, universities and NGOs should work hand in hand to ensure that horticultural activities help people in the District and Tanzania at large in improving their life standards by reducing the level of poverty.

5.5 Recommendation for Further Studies

The findings of this study awakened both theoretical and methodological questions requiring further research. In this view, further researches are recommended to bring useful insight into the following areas:

The findings of this study cannot be applied to draw similar and general conclusions to other diverse areas. The findings obtained in the area of study within a single and in a limited period can be used as a stepping stone in giving a general picture towards improving horticultural sector. Agriculture is regarded as a back bone of the country; horticulture is also a part and parcel of agriculture that has been practiced for a long period. Thus, longitudinal researches that track long term impact of horticulture would give useful insights into youth participation in horticulture.

Similar study could be conducted on a wider scope in Tanzania since youth's activities in the sector of horticulture are implemented in other horticulture favouring regions of the country. The necessity of conducting these researches is due to the fact that effectiveness of these activities in reducing poverty defers from one district to another due to institutional framework and nature of the community.

Assessment of the impact of horticulture in reducing poverty in the entire population participating in the sector is crucial so as to identify obstacles and come with effective and practical improvements. Study on perception and application of agricultural education in horticulture is another important issue to be dealt with as a

way to help people to improve their livehood and as a way to lead people free from poverty.

More studies on horticulture could be done in Mvomero District in few years to come to assess the progress of horticultural activities and the changes the youth have made in their life. It is crucial to conduct researches in few years to come because changes in terms of technology, market, networking and geographical happen. These changes can bring effects on youth efforts of reducing poverty through horticulture.

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APPENDICES

APPENDIX 1:

QUESTIONNAIRE FOR YOUTH PARTICIPATING IN HORTICULTURAL PRODUCTION

Introduction

My name is George N, Gulamiwa a Master's student at Mzumbe University pursuing Master of Science in Development Policy. I am conducting a study titled Youth Participation in Horticulture and Poverty Reduction in Rural Areas: A Case of Horticultural production in Mvomero District. I would be grateful if you could give me a support in my study by answering the questionnaire and your answers will be appreciated. The questions aimed at meet academic purposes only. Thus, you are assured of your identity and confidential of all your response**.**

Village name……..Ward name…….

A. Personal Information

Tick (√) where appropriate

1. Sex of respondent:
   a. Male….
   b. Female…….
2. Age of respondents:
   a.15-25 years……
   b. 26-35 years……
   c. 36-45 years……
   d. 46-above……
3. Education level
   a. None ……..
   b. Primary …….
   c. Tertiary ……d. Degree ……..

4. Marital Status

   a. Singe ……

   b. Married …….

   c. Divorced……

   d. Widow…….

   e. Separation……..

5. Household Size:

   a. One ……

   b. Two ……

   c. Three ……

   d. Four ……

   e. Five……

   f. Others (specify)……

6. What is your occupation……..

7. What is your level of income per year

   a. Tshs 100,000 to Tshs 500,000…….
   b. Tshs 600,000 to Tshs 1,000,000……
   c. Tshs1100, 000 to Tshs 1,500,000……
   d. Tshs 1,600,000 to Tshs 2,000,000…….
   e. Tshs 3,000,000 and above (specify)……

B. Information on Youth Engagement in Horticulture and Poverty Reduction.

8. Are you involved in horticultural activities?

a. Yes.....

b. No……

9. If the answer is "Yes'', for how long have you been involving in horticulture ……..

10. Explain how do you involve with horticulture……

11. Do you own a horticultural farm?

a. Yes…..

b. No…….

12. If "yes" what types of horticulture plants do you grow in your farm?

a. ……..
b. ……..
c. …….

1. How many seasons do you cultivate vegetable in the year?……
2. What is the size of the farm do you cultivate?…….
3. How did you acquire the capital for horticultural production? Put (√)

Purchased	**Rent**	**Inherited**	**Grant**

4. Why did you choose to involve in horticulture farming?
   a. ……
   b. ……
   c. ……....
   d. ……

5. How are the other youth involved in horticulture farming?
   a. ……
   b. …….
   c. ……
   d. ……
6. Where do you get information about horticulture farming?
   a……
   b…….
   c……..
   d……
7. How do you rate the involvement of the youth in horticultural production?
   a. Very good….
      b. Good……
      c. Satisfactory……
      d. Poor……
      e. Worse…..
8. Where do you sell your yields after harvesting? Put(√)
   a. To local markets in villages……
   b. c. In big town markets……..
   c. To direct consumers in villages…….
   d. d. To the middlemen……..
9. Which means do you use to take the products to the markets

Bicycle	Motorcycle	Public transport	Hired vehicle	Own vehicle	Head/hand carrying

10. How many times do you harvest in a one season?
    a. Once……..
    b. Twice……
    c. .c. Thrice……
    d. d. Four times……..

11. What is the amount of horticultural product have you produced in the past three years

Year	**2012**	**2013**	**2014**
Kilograms			

12. How much do you earn from horticulture products?

	Item	Amount earned per harvest TShs	Amount earned per year TShs
1			
2			
3			

13. How do you spend your money earned from horticulture farming?

S/No	Expenditure Item	Amount spent TShs
1		
2		
3		
4		
5		
6		

14. How do you rate the contribution of horticulture in supporting you life?
    a. Very good……
    b. Good……
    c. Satisfactory……
    d. Worse…...
    e. Poor…..

15. Do you regard horticulture as a mean which helps you to improve the status of your life?
    a) Yes……
    b) b. No……..
    If 'yes' for how long improved……
16. If 'Yes', can you explain how do you regard as your life improved?
    a. …….
    b. …….
    c. ……..……
    d. ……..
17. If 'No' why?
    a. ……
    b. …….
    c. ……
    d. ……..
18. What are the other income generating activities do you involve apart from horticultural activities?

S/No	Activity	Average Income Per year TShs
1		
2		
3		

19. How do you compare the income earned from horticulture with the income from other non horticultural activities in terms of life support?
    a. .....
    b. ……
    c. ……..…….
    d. ……

20. What problems do you experience in implementing horticultural activities?
    a……
    b……..
    c……..…
    d…….…….
    e…….….
21. Do you get any support from the government or NGOs in implementing horticultural production?
    a. Yes……..
    b. No……
22. If 'Yes' what type of support do you get and how the support assists in improving horticulture?
    a. …….
    c) ……
    d) ……
    e) …….
23. How do you rate the support you get in implementing horticultural production?
    a. Very good…..
    b. Good…..…
    c. c. Satisfactory…….
    d. d. Poor….
    e. .e. Worse…….
24. What do you think are the available opportunities for the growth of horticulture in this area?
    a. …….
    b. ……..
    c. ……..
    d. ……

25. What do you suggest to be done to attract more youth to participate in horticulture?
    a. ……..
    b. …….
    c. …….
    d. ……
    e. …….

26. What do you suggest should be done to improve horticultural production in the district?

    a…….....
    f. ……
    g. ……
    h. …….
    i. …….

Thank you so much for your cooperation.

APPENDIX 11

INTERVIEW GUIDE FOR OFFICIALS

Introduction

My name is George N, Gulamiwa a Master's student at Mzumbe University pursuing Master of Science in Development Policy. I am conducting a study titled Youth Participation in Horticulture and Poverty Reduction in Rural Areas: A Case of Horticultural production in Mvomero District. I would be grateful if you could give me a support in my study by answering the questions. The questions aimed at meet academic purposes only. Thus, you are assured of your identity and confidential of all your response**.**

B. Personal Information

Tick (√) where appropriate

1. Sex of respondent:
   a. Male….
   b. Female…….
2. Age of respondents:
   a.15-25 years……
   b.26-35 years……
   c.36-45 years……,
   c. 46-above……
3. Education level:
   a. None ……..
   b. Primary …….
   b. Tertiary ……
   c. Degree ……..

4. Marital Status:

    a. Singe ……

    b. Married …….

    c. Divorced……

5. Household Size:

    a. One ……

    b. Two ……

    c. Three ……

6. What is your occupation……

B. Information on Youth Engagement in Horticulture.

7. Are youth involved in horticultural activities?

    a. Yes.....

    b. No……

8. How do youth involve with horticulture……
9. What types of horticulture plants do youth grow in their farms

    a……

    b …….

    C……

    d. ……..

10. How many seasons youth cultivate horticulture in the year……

11. What is the size of their farms …….

12. How youth acquire the capital for horticultural production? Put (√)

Purchased	**Rent**	**Inherited**	**Grant**

13. Where youth get information about horticulture?

    a…….

    b……

    c……..

    d……

14. How do you rate the involvement of the youth in horticultural production?

    a. Very good….

    b. Good……

    c. Satisfactory……

    d. Poor……

    e. Worse…..

15. Where youth sell their yields after harvesting? ……..

16. Which means they use to take the products to the markets?.....

17. What is the amount of horticultural product they have you produced in the past three years

Year	**2012**	**2013**	**2014**
Kilograms			

18. How much youth earn from horticulture farming?

S/N	Item	Amount earned per harvest TShs	Amount earned per year TShs
1			
2			
3			

19. How youth spent their money earned from horticulture farming?
20. How do you rate the contribution of horticulture in supporting youth life?
    a. Very good……
    b. Good……
    c. Satisfactory……
    d. Worse…...
    e. Poor…..
21. Do you regard horticulture as a mean which helps youth to improve their life status?

    a. Yes……

    b. No…….. If 'yes'

22. If 'Yes', can you explain how do you regard as their life improved?……...
23. If 'No' why?.....
24. What are the other income generating activities do you involve apart from horticultural activities?

a…….

b……..

c……

d……..

25. What problems youth experience in implementing horticulture farming?.....
26. What type of support youth get and how the support assists in improving horticulture?.....
27. How do you rate the support you get in implementing horticultural production?

    a. Very good…..

    b. Good……

    c. Satisfactory…….

    d. Poor…..

    e. Worse…….

28. What do you think are the available opportunities for the growth of horticulture in this area?.....
29. What do you suggest to be done to attract more youth to participate in horticulture……..

30. What do you suggest should be done to improve horticultural production in the district?.....

Thank you so much for your cooperation.