

**THE ROLE OF RURAL MARKETS IN RURAL ECONOMIC  
DEVELOPMENT:**

**THE CASE OF NYANDIRA MARKET**

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DEVELOPMENT:**

**THE CASE OF NYANDIRA MARKET**

**By**

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**A Dissertation Submitted to the School of Business in Partial Fulfilment of the  
Requirements for Award of the Degree of Master of Science in Accounting and  
Finance (MSc. A&F) of Mzumbe University, Morogoro.**

**2015**

## CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled **Role of RuralMarket to Rural Economic Development: The Case of Nyandira Market**, in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance of Mzumbe University.

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

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## **ACKNOWLEDGEMENTS**

I would like to express the deepest appreciation to my Supervisor Mr. Rocky Alex who supported me since the development of my research proposal, during data collection and finally developing this dissertation report. Without his guidance and persistent help this dissertation would not have been possible.

I would also like to thank Dr. HawaTundui who trained me on the theoretical research methodology, the skills she provided has helped me in conducting this study.

In addition, I would like to thank The Executive Director of MVIWATA Mr. Stephen Ruvuga and the Head of Finance and Administration Ms. Mercy Kingu who gave me permission to conduct this study. It was not so easy to manage employment requirements while at the same time being engaged in academic issues, the support given will never be forgotten.

I would also like to thank my wife Witness Emmanuel Munga (Geni) who gave support and encourages all the time from proposal development, data gathering and finally report writing.

Finally, I would like to thank famers from Nyandira village who provided me with information on accessibility of information regarding the role of rural markets to rural economic development. Without their information this study would have not been possible.

## **DEDICATION**

This dissertation is dedicated to my wife; Witness Emmanuel Munga (Geni) who has been a source of my personal life, success, encouragement and support throughout my academic development endeavor

## **ABBREVIATIONS AND ACRONYMS**

ADPs	Agricultural Development Project
AERLS	Agricultural Extension and Research Liaison Services
MSc-A&F	Master of Science in Accounting and Finance
MDB	Market Development Bureau
MIS	Market information System
MAMIS	MVIWATA Agricultural Marketing Information System
MVIWATA	MtandaowaVikundivyaWakulima Tanzania
NMB	National Microfinance Bank
RML	Reuters Market Light
TAHA	Tanzania Agricultural Horticultural Association
FDG	Focus Group Discussion
TANESCO	Tanzania Electricity Supply Company
NMBL	Nyandira Market Board Limited
SACCOS	Saving and Credit Cooperative Societies

## **ABSTRACT**

Agriculture is the foundation of Tanzanian economy, which accounts for more than one-quarter of GDP, provides 85% of exports, and employs about 80% of the work force. However, agriculture in Tanzania faces a limited market access, largely attributed to lack of access and use of market information by commodity chain actors, farmers being the most disadvantaged group. A study was conducted at Nyandira village, Morogoro region to assess the role of rural market to rural economic development. The target population for the study was small scale farmers who were producers of vegetables and sold their produce in the established market premises in the village. A total of 120 Small scales farmers were studied using questionnaires. Both probability and non-probability sampling methods were used. Secondary data were collected through documentary review while primary data were collected using questionnaires and Interview of key informants. Findings of the study indicate that rural markets contribute to rural economic development. A total of 53.8 % of the small scale farmers covered by the study indicated that marketing activities of their agricultural produce have improved their income and livelihood. In addition, employment opportunities were created and access to basic services and infrastructure were improved. The study also revealed that there were notable changes in resource allocation at farm level and an increase in crop production and output in areas under the influence of the Nyandira market. Most of the respondents (99.1 %) indicated that they sold their produce immediately after harvest, indicating that marketing their produce was not a constraint. The study further revealed that the existence of rural market infrastructure increased the power of respondents to bargain prices with traders, and also increased the number of traders in the area of the study. Most respondents (95.7%) indicated that the existence of the rural market facilities in the area increased their employment opportunities and cash from market activities has increased the circulation of money in the area around the market, thus contributing to the local economic growth.

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## **CHAPTER ONE**

### **PROBLEM SETTING**

This chapter presents background information, definitions and general concepts as applied in the research study; it also presents research problem statement, research objectives, research questions, significance and justification of the study and organization of the dissertation.

#### **1.1 Background of the Study**

Market refers to a place where sellers and buyers meet for exchange good and services. Rural market is place where any marketing activity is carried out in which the dominant participants are from rural areas. This implies that rural market consists of marketing of inputs (products or services) as well as outputs from the rural markets to other geographical areas (IFAD, 2004).

The study takes a view of the role of rural market and its contribution to rural economic development. The problems facing marketing in developing economies, such as low marketing education, preferences for foreign products, high cost of production, inadequate infrastructures. Others are few competitive opportunities, excessive government regulations and interference has taken into consideration. Despite these problems, there are prospects for improvement in the nearest future based on the high growing population of most developing countries, large unexplored markets, attractive government incentives, growing affluence, to mention but a few. Therefore, it is concluded that developing countries must put their arts together and overcome these few difficulties in order to exploit the marketing opportunities that are abound in their various domains (Sunday & Alex, 2009).

Tanzania is located on the coast of eastern Sub-Saharan Africa and has a population of more than 40 million people. It is one of the world's poorest countries (Valentina, 2013). The 2004 United Nations Development Program Human Development Index ranked Tanzania's poverty as 162 out of 175 countries. The World Bank estimated

Tanzania's 2004 per capita income at \$280 per year (less than \$1 per day) (USAID 2004). In many ways, Tanzania represents typical of socioeconomic and agricultural problems which faces African countries. Most Tanzanians farmers are subsistence farmers, meaning that they basically grow their own food supplies. The average life expectancy in Tanzania is about 51 years (World Fact Book 2008).

Rural market can be a critical element of improving rural development, improving access to market information, outputs and inputs, rural roads, communication technology, land and water and financial services such as savings and credits. Such facilities enable the rural poor to manage their risks better, gradually build their asset base, develop their market enterprise, enhance their income earning capacity, and enjoy an improved quality life (Pilipinas, 2002: IFAD, 2004). Researchers argue that Rural Markets are useful as they reduce poverty and facilitate smooth development of the rural people through increasing income and standards of living, empower women, and develop the business sector through growth potentials and develop a parallel rural development (Ward & Hite, 2002),

It is generally accepted that without permanent access to formal markets and market information, most poor households and rural people would continue to rely on informal markets which limit their ability to actively participate and benefit from the development opportunities. According to International Livestock Research Institute Report (ILRI, 2009), linking farmers to markets is critical to rural development and efforts to combat Africa's food woes. The report further argues that food price fluctuations, vulnerability, policy change, access to credit, and agro-processing opportunities are the key elements to be addressed for the rural people to improve their life standards and hence development (Karla, 2013).

This is true because well-established market will facilitate price stability, reduce vulnerability, good policy, and access to credit and agro-processing will contribute to growth of the rural people, national income, create more employment opportunities, better standard of living and hence poverty reduction (Karla, 2013).

According to FERT and MtandaowaVikundivyaWakulima Tanzania (MVIWATA) experience in supporting the rural market (FERT, 2009) Tanzanian farmers, loudly and clearly expressed the need for access to the resources necessary to fairly compete in the free market economy and to obtain a paying outlet for their agricultural produce. This indicates that farmer's produce could be sold at better prices if we could improve the market infrastructure near their farms. Agricultural marketing is not the only concern of Tanzanian farmers but it is a crucial one since it can have a strong and direct impact on farmers' income. Moreover, it is a good entry point to address other farmers' concerns: including access to financial services, inputs and land. To address the challenge of marketing which we consider a priority, the rural markets' model relies on improved market infrastructure managed by small local groups of key market stakeholders. We believe that this is an innovative way of improving the farmers' marketing conditions. This also concretely demonstrates how farmers' organizations can get involved in public-private partnerships that bring positive results for all (FERT & MVIWATA, 2009).

The increased participation and contribution of constructed rural market has lead to an increased need for access to marketing services and information. Access to market has been recognized as one of the tools for promoting development in the rural areas (Kaburire&Ruvuga, 2006). These enable the individual member or enterprise to enjoy both benefits of economies of scale and the new technology, (Chijoriga and Assimon, 1999). Reconciling the importance of rural market to rural development, during 2001 the government of the United Republic of Tanzania developed a National rural development strategy aiming to enabling the low-income earners to access the marketing services. Rural markets have become an alternative source of improving development of rural people (URT, 2001).

Nyandira market is a rural farmer based market which involves the provision of marketing services where by farmers and traders from different corners of the country meet and exchange goods and services. The market premises were constructed by MtandaowaVikundivyaWakulima Tanzania (MVIWATA) under the

project of Rural Markets development (RMdP), which was implemented from January 2002 to December, 2004. RMdP was financed by the French Government through its international development arm (AFd). Through the implementation of RMdP four rural markets were constructed, which included Kibaigwa market in Kongwa district Dodoma, Tandai and Tawa markets in Morogoro district, Nyandira market in Mvomero district Morogoro. Nyandira market is located in Mvomero District in the Uluguru Mountains, at an altitude of 1650 m above sea level, and the main produce sold at the market are mainly vegetables (cabbages, tomatoes, green beans, and potatoes), fruit (pears, peaches, plums, bananas), grains mainly maize and various types dry beans. The market was officially opened on July 2004 for use. Annual turnover of 19, 4 million TZS (11,400 Euros) was realized in 2008 (FERT & MVIWATA, 2009).

## **1.2 Statement of the problem**

Agriculture is the foundation of the Tanzanian economy, which accounts for more than one-quarter of GDP, provides 85% of exports, and employs about 80% of the work force (Lisa, et al, 2008). Despite this strategic importance, agriculture in Tanzania faces a number of challenges, including limited rural infrastructure, irrigation facilities, availability of good quality seeds and other inputs, as well as limited market access. Limited market access is largely attributed by lack of access and use of market information by commodity chain actors, small holder farmers are the most disadvantaged group with traditional market information channels (Muganga, 2011).

Limbu (1995) reported similar problems and gaps related to agriculture and rural development. It is, therefore highly recommended that “a national think tank” on agricultural issues be identified and be given adequate time to sort out the future of agriculture and rural development in the country. World Bank Report (2008) indicated that there are a number of problems and controversial issues in the agricultural sector which need agent policy attention and solutions.

The establishment and construction of formal rural market by MVIWATA is seen to be the best alternative option for marketing agricultural produce in rural areas and as a means to raise small holder farmers' income, hence improving economic development of small scale farmers. However, findings from other researchers have shown that rural markets have limited coverage, poor organization structures and some are donor driven (FERT, 2009).

Rural markets are of fundamental importance in the livelihood strategy of most rural households, rich and poor alike. Markets are where, as producers, they buy their inputs and sell their products; and where, consumers, spend their income from the sale of crops or from their non-agricultural activities, to buy their food requirements and other consumption goods. The rural poor people in many parts of the world often indicate that one reason they cannot improve their living standards is that they face serious difficulties in accessing markets (IFAD, 2003)

Low population densities in rural areas, remote location and high transport costs present real physical difficulties in accessing markets, the rural poor are also often constrained by their lack of understanding of the markets and market information, their limited business and negotiating skills, and their lack of an organization that could give them the bargaining power they require to interact on equal terms with other, larger and stronger market intermediaries. Furthermore, rural producers from developing countries face significant impediments in accessing rich countries' markets (IFAD 2003).

Despite of rich endowment of natural resources, good climate and abundant land, Tanzania's agriculture performance is unsatisfactory (Temu, et al, 2005), Agricultural productivity, rural incomes, food security and livelihoods did not respond to the 1980s reforms at levels expected earlier: Tanzania Agricultural Gross Domestic Product (GDP) grew by 3.5% from 1985 to 1990; and by 3.3% from 1990 – 1998, or on an average, by 3.3% over the entire period; barely above the population growth of 2.8% (FAO 2001; World Bank 2001)

A number of studies conducted in Tanzania, present contradictory findings on role of agricultural markets in economic development (MVIWATA 2012; Temu et al, 2005, Okore 2014). Therefore it is the researcher's intention to fill this information gap by assessing the role of rural markets in rural economic development with reference to small scale farmers in Tanzania using Nyandira market in Morogoro region as a case study.

### **1.3 Objective of the Study**

#### **1.3.1 General Objective**

The general objective of the study was to assess the role of rural markets in rural economic development in Morogoro.

#### **1.3.2 Specific Objectives**

The study centered on the following specific objectives:

- a) To assess whether there is increase in the level of house hold income at Nyandira.
- b) To find other improved social economic factors of development at the household level at Nyandira.
- c) To assess whether there is improved access to basic services and infrastructure in rural areas.

### **1.4 Research Questions**

- a) At what level there is an increase of house hold income as a result of existence of the rural market infrastructure in the area?
- b) At what level there is improved other social economic factors of development at the household level at Nyandira.
- c) At what level there is improved access to basic services and infrastructure in rural areas?

## **1.5 Significance of the Study**

This research will look at the current status of economic development in rural areas after the construction of rural markets, to find out whether the construction of rural markets has an influence on rural economic development. The study will have the following significance.

- a) The study will provide guidelines to Government and other bodies to assist diversification and allocation of resource in rural areas.
- b) The study will improve the judgment of planners and decision makers when deciding whether, when, and to what extent a proposed economic investment will yield economic benefits to the rural community it serves. At organization level, MVIWATA will equally play an important role in the study since it is still implementing similar rural market projects, currently in Malolo (Kilosa district in Morogoro) and Kilolo district in Iringa. It will also add to the knowledge on donor-assisted community development projects in Tanzania.
- c) The study will demonstrate the value of investing in rural markets corridors to support rural economic growth.
- d) In light of the findings, development practice will be given a closer critique in order that action can be taken to ensure the longevity of service provision at the village level, ward and district to improve the welfare of farmers living in poverty by delivering proper market service.
- e) Lastly, the study will also provide a basis for further research especially on rural market projects and recommendations to assist the farmers.

## **1.6 Scope of the Problem**

This study will be conducted in Mgeta ward, Mvomero district in Morogoro region. The study will be carried out with a view to assess the role of rural markets to rural economic development, the case of Nyandira Market Board Limited in Mvomero district.

The struggle for rural economic growth in contemporary developing countries is taking place in the very dynamic structural and institutional context (Azer and Pavel,

2013). First, occupying vast majority of fertile land developing countries in Africa (Madagascar, Mozambique, Tanzania and others), Latin America (Argentina, Brazil) and Eurasia (Russia, Ukraine, Kazakhstan) attract growing interest of both domestic and foreign investors from rich Western and Asian countries which have to supply growing demand for food (Visser and Spoor, 2011).

This leads to increasing investment in rural territories and establishment of large farm enterprisers which often hire foreign managers and implement new managerial practices and modern technologies thus significantly changing rural environment in developing countries (Visser et al., 2012). On the one hand, this phenomenon may be analyzed from a positive angle with a focus on the growing investment in the agricultural sector. On the other hand, some criticism in literature is directed on the increased powers of global “food regimes”, dominated by multinational companies (McMichael, 2009), and their role in the so called transnational “land grabbing” (Visser and Spoor, 2011).

Second, at the same time in fertile rural territories in developing countries significantly grows activity of small and middle-size private farming and entrepreneurship. As World Bank’s report on agricultural development notes: “on-farm investments, reflected by the volume of agricultural capital stock, have increased over time, with the increase concentrated in low- and middle-income countries.” (World Bank, 2012). Key role in stimulating small scale agricultural production is played by governments of these countries which provide targeted support for family farms and households. For example, in Mexico governmental programme has led to increased land use, livestock ownership, crop production and agricultural expenditures which resulted in greater likelihood of operating a microenterprise (Todd et al., 2009; Gertler et al., 2012).

In Malawi, the special social protection programme also increased on-farm investment and production (Covarrubias et al., 2012). In Argentina, one of the world’s top four food exporters, in 2010 special programme aimed at boosting family farming was started (Inter-American Development Bank, 2010). In Russia in 2006

the special “National Project” was initiated with three major goals one of which was to stimulate development of small scale agricultural production. It is particularly interesting that by the end of the 2006 banks receive so many applications for credits that government had to increase financial support in twice (Barsukova, 2013). These tendencies illustrate complicated character of economic development in contemporary developing countries. Their rural economic growth is based upon processes that may seem to be controversial which causes ambiguous assessments from researchers (McMichael, 2009).

### **1.7 Limitations of the Study**

Time and funds were major constraints to conduct the study. However, the researcher tried to draw time schedule and stick to it to ensure successful completion of the study within the allocated time frame.

### **1.8 Organization of the dissertation**

The dissertation is organized in various sections to provide the reader with the information flow that helps to connect issues and build ideas for better conclusion. There are six key sections in this dissertation. While the first chapter introduces the study, it also gives a brief background on the rationale of the study. Section two presents literature review, theoretical and empirical review of the study which shows relevant theories and empirical studies reviewed on the subject area. Section three briefly discusses the study methodological approaches, which includes desk review, data collection and analysis, field visits, interviews with key informants as well as focused group discussions in the market catchment areas. Section four discusses the study findings. Sub-sections in this section are arranged in a manner that reflects chronology of issues. Section five presents conclusions and recommendations, whereas the sixth and last section is about important appendices to this dissertation.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

This part comprises both the theoretical and empirical literature review. The theoretical review defines the key terms used in this study, the key terms used in the theoretical review are rural economic development, small scale farmer's economic development, agricultural marketing information and its accessibility, agricultural prices, inputs and technology. The empirical review describes findings from studies conducted in different areas assessing the role of rural market to rural economic development.

#### **2.1 Definition of the Key Terms**

##### **2.1.1 The Rural Areas**

Rural areas are defined as geographical areas in which primary production takes place and where populations are found in varying densities, these areas are characterized by activities related to primary and secondary processing, township enterprises, marketing and services that serve rural and urban populations (URT, 2001). Therefore, rural areas include a wide range of farm and non-farm activities and they include small towns and the district centers (RDS, 2001). Generally, rural areas experience variety of social, economic, political and moral problems such as lower per capita income, lower educational level, fewer employment opportunities, limited educational and cultural facilities, out-migration, less developed health and transport services, limited commercial facilities, declining small towns, and less confidence in the future prospects (Navaratnam, 1986).

##### **2.1.2 Rural Market**

The term 'rural Market' refers to a place where any marketing activity in which the one dominant participant is from a rural area. This implies that rural marketing consists of marketing of inputs (products or services) to the rural as well as marketing of outputs from the rural markets to other geographical areas. Rural market can be a critical element of improving rural development. Improving access

to market information, products output and inputs, road, communication, technology, land and water and financial services such as saving and credits facilities enable the rural poor to smooth their consumptions, manage their risks better, gradually build their asset base, develop their market enterprise, enhance their income earning capacity, and enjoy an improved quality life (Pilipinas, 2002: IFAD, 2004). Researchers argue that the Rural Markets are useful as they reduce poverty and facilitate smooth development of the rural people through increasing income and standards of living, empower women, and develop the business sector through growth potentials and develop a parallel rural development (Ward, Hite, 2002).

### **2.1.3 Rural Economic Development**

Rural economic development generally refers to the process of improving the quality of life and economic well-being of people living in relatively isolated and sparsely populated areas(Karla, 2013).

Rural development generally refers to the process of improving the quality of life and economic wellbeing of people living in relatively isolated and sparsely populated areas (Moseley, Malcolm J, 2003). Rural development has traditionally centered on the exploitation of land-intensive natural resources such as agriculture and forestry. However, changes in global production networks and increased urbanization have changed the character of rural areas. Increasingly tourism, niche manufacturers, and recreation have replaced resource extraction and agriculture as dominant economic drivers (Ward, Neil; Brown, David L, 2009).

The need for rural communities to approach development from a wider perspective has created more focus on a broad range of development goals rather than merely creating incentive for agricultural or resource based businesses. Education, entrepreneurship, physical infrastructure, and social infrastructure all play an important role in developing rural regions. Rural development is also characterized by its emphasis on locally produced economic development strategies (Moseley, Malcolm, 2003). In contrast to urban regions, which have many similarities, rural

areas are highly distinctive from one another. For this reason there is a large variety of rural development approaches used globally.

Rural development concerns geographical areas in which primary production takes place and where populations are found in varying densities. These areas are characterized by activities related to primary and secondary processing, marketing and services that serve rural and urban populations. Therefore, rural development concerns a wide range of farm and non-farm activities. In order to achieve rural development the linkage between rural and close by small towns and urban centers is crucial. For operationalization of the RDS, therefore rural areas include villages and small towns/nearby urban centers (Government of the United Republic of Tanzania, 2001).

#### **2.1.4 Perspectives on Rural Economic Development**

This part discusses two important perspectives on rural economic development. First, as there is an increasingly globalized world, locality is becoming more important for economic development and second, it looks at the possible sources of economic development in rural areas.

##### **2.1.4.1 The increasing importance of locality**

Globalization refers to the shift towards a more integrated and interdependent world economy. Undoubtedly, there are both positive and negative aspects to globalization and these impacts are experienced at the level of the individual, the household, the firm, the town, the region, the sector and the nation (Kaplinsky and Readman, 2005). On the positive side, growing global integration leads to increased incomes and greater product and service quality and choice for some of the world's population. On the negative side, there is also a tendency towards growing disparity within and between countries and, globally, a stubbornly large number of people living in absolute poverty (Kaplinsky and Readman, 2005).

Paradoxically, however, in a globalizing world, locality is becoming more important in economic development processes (Porter, 1998). For example, in the rural

economic development literature, there is clear evidence that successful rural areas are those that have used community-led approaches to development that focus on leveraging local resources, institutions, capabilities and skills that do not exist elsewhere (Terluin, 2003; Heanue, 2002a). Elsewhere, in the industrial economics literature, it is argued that for firms critical learning processes which rest on local innovation systems characterized by inter-firm collaboration, good quality regional infrastructures, access to high-grade design resources, and highly skilled labor forces give some enterprises an advantage over competitors (Hirsch-Kreinsen et al, 2003).

This advantage lies increasingly in local factors such as knowledge, relationships and motivation that distant rival firms cannot access (Porter, 1998). Moreover, especially for products like food and tourism, the ability to draw closely on the attributes of an area to deliver authentic local food and unique culturally-based tourism products is an important source of competitive advantage (Department of Agriculture, Fisheries and Food, 2010; Bessièrè, 1998).

By drawing on their unique local resources, communities and firms are able to exert some influence over their interaction with global forces: an interaction that is mediated through national policies and frameworks (Terluin, 2003). It is locality in the broad sense discussed here that is at the centre of ideas about the possibility of endogenous development for rural areas (Terluin, 2003). Unsurprisingly, it is also important for the case study in this paper.

#### **2.1.4.2 Sources of rural economic development**

Economic development is sustained progressive change to attain individual and group interests through expanded, intensified and adjusted use of resources (Shaffer et al, 2004). Rural economic development is no different. By way of a simplistic model, economic development in any rural area may arise from the activities of government, the private sector and the voluntary/community sector. However, it is clear that in some areas, or at different times in a single area, one or more of these actors may not be making a significant contribution to rural economic development.

In other words, there may be government, private or community sector failure in terms of their contribution to economic development. Dissatisfaction with the contribution of government and the private sector to economic development has led some rural communities to try to stimulate development themselves. This usually involves the provision of services, enterprise, training or infrastructure. More narrowly, community economic development has taken three main forms (Curtin, 1996):

- 1) Communities have sought to establish and manage enterprises themselves.
- 2) Communities have sought, usually in negotiation or partnership with state agencies to bring jobs to their areas.
- 3) Communities have, again typically in conjunction with state agencies, sought through such means as the provision of workspace and training and education supports, to promote indigenous enterprise.

At community level, any of these three activities is necessarily underpinned by collective action to initiate, plan, and manage any of these forms of economic development activities. How such collective action emerges, is harnessed, nurtured and what it can achieve is central to the remainder of this paper. In this case, the NMBL was constructed by MVIWATA under the RMdP from 2002 to 2004, the action was initiated by network of farmers groups who rise their voice to their development.

#### **2.1.4.3 The Importance of Markets for rural poor people**

Markets are of fundamental importance in the livelihood strategy of most rural households, rich and poor alike. Markets are where, as producers, they buy their inputs and sell their products; and where, as consumers, they spend their income from the sale of crops or from their non-agricultural activities, to buy their food requirements and other consumption goods (IFAD 2003). Because of this, rural poor people in many parts of the world often indicate that one reason they cannot improve their living standards is that they face serious difficulties in accessing markets. Low population densities in rural areas, remote location and high transport costs in rural

areas present real physical difficulties in accessing markets (Temu et al 2005). The rural poor are also often constrained by their lack of understanding of the markets, their limited business and negotiating skills, and their lack of an organization that could give them the bargaining power they require to interact on equal terms with other, larger and stronger market intermediaries. Furthermore, rural producers from developing countries face significant impediments in accessing rich countries' markets (IFAD 2003).

### **2.1.5 Small scale farmers and economic development**

In Tanzania, small scale farmers are farmers who are involved in subsistence activity who have low social, cultural and economic status and limited access to technology, markets and credits. Smallholders typically receive little technical support and often have low productivity due to an inability to invest in things such as improved seeds and soil replenishment. Smallholders generally rely on labor-intensive production methods and family labor, although they often have to hire labor, especially at key moments in the production cycle like harvesting (Sebastian 2012).

In different countries, small scale farmers are defined based on the area cultivated. Small scale farmers are farmer with farm sizes of less than two hectares. On the whole, these small farms are not economically efficient because of relatively high input costs compared to profits. Small farmers in developing countries are unable to take advantage of economies of scale and often lack the financial resources such as credits and loans to make their farms profitable (Von Braun, 2008).

Development of small scale farmers means unlocking smallholder productivity and market access which can lift millions of families out of poverty, improving yields of their crops imperative to addressing growing food security challenges and income. The development indicators for small scale farmers include areas of food balances (production, consumption, trade and stocks), market structures; incomes, poverty and inequality, food security, productivity and state of natural resources (Lipton, 2005). In the context of this study small scale farmers economic development means an

increase of income for farmers following an increase in production level, sales volume and selling price of their crops.

#### **2.1.6 Agricultural Prices**

Agricultural prices cover prices of agricultural products (output prices) and prices of requisites for agricultural production (input prices) at various stages of marketing aims at ensuring remunerative prices to the growers for their produce with a view to encourage higher investment and production. The agricultural prices take into account all-important factors of Cost of Production, Changes in Input Prices, Trends in Market Prices, Demand and Supply Situation. Agricultural prices are important economic variables in a market economy it has a significant influence on decisions relating to the type and volume of agricultural production activity.

An individual farmer needs output prices to determine the pace and volume of his sales so as to optimize the return from his farm production. In the long run, knowledge of price trends helps a farmer to formulate the investment plan on his farm and to take decisions on the structure and nature of his enterprises. An understanding of the normal differences in the prices of his products and production requisites during the year helps a farmer to react logically to the marketing situations in order to optimize the planning of the sale of his products and the purchase of his supplies. His production plans are governed by the price expectations of the various commodities he can produce, and these expectations are based on the trends both of output prices as well as the prices of the agricultural inputs that he has to buy (Acharya, 2000).

#### **2.1.7 Agricultural inputs**

Agricultural inputs include seed, fertilizers, pesticide, insecticides and post-harvest inputs. Agricultural inputs are among the most important requirements for achievement of successful production operations and satisfactory profitability both for agricultural projects and farmers (Matee, 2000).

### **2.1.8 Extension Education**

Extension is a type of education which is functional rather than formal. It is better provided by extension workers whose main task is to convey information in a meaningful form to farmers. One of the ways they do this is by training a group of model farmers with the hope that such farmers come in contact with other farmers. Farmer education programs will increase local food availability, farmer income and sustainability of agricultural practices (Abdalah, 2004).

### **2.1.9 Food Security and Poverty Reduction**

Food security exists when all people at all times, have physical and economic access to sufficient, safe and nutritious food to meet their daily needs and food preferences for an active healthy life. The concept of food security involves four considerations, namely availability, stability, accessibility and affordability. Regardless of whether food supplies are scarce or abundant, it is essential that people know how best to use available resources to acquire and consume a variety of safe and good quality foods, this can be achieved through the provision of education and trainings. Hunger impedes learning, chronically hungry people attending school must learn while fighting hunger.

Children in rural areas often walk long distances to school on empty stomachs. Many cannot afford to bring food from home to eat during the day. Hunger also bears children from attending school as all the family resources available are mobilized to try to meet the most pressing needs. To overcome this problem, school feeding has been found to be extremely important programme. Through school feeding children are exposed to concepts of healthy food production and consumption - through participation in school gardens and education on nutrition (FAO and UNESCO, 2002).

Having recognized that consuming a nutritionally adequate diet is vital for a healthy and active life, when searching for improved education strategies for rural development, nutrition education should become an integral part of this. Education

for food security has broader strategies, including the enhancement for training of whole households, courses for policy-makers, research grants to further the efforts in education for food security, awareness-creating modules, the training of women and the development of multimedia manuals (FAO and UNESCO, 2002).

#### **2.1.10 Agricultural Technology**

The use of improved mechanization, irrigation systems and different tools lead to increase in productivity as they result in production of larger area using low manpower. Agricultural Technology for Small Farmers is required in the areas of crop processing and storage, small-scale mechanization and transport, rural structures and farm energy. Farmer needs information on production technology that involves cultivating, fertilizing, pest control, weeding and harvesting (Temu, 2002).

#### **2.1.11 Agricultural Credit**

Agricultural credit encompasses all loans and advances granted to borrowers to finance and service production activities relating to agriculture, fisheries and forestry and also for processing, marketing, storage and distribution of products resulting from these activities. To reap the benefit of credit, farmers need information relating to sources of loan such as names of lenders, location and types of existing credit sources. They need information on the terms of loans such as the interest rates, loanable amount and mode of repayment (Rweyemamu, 2004)

### **2.2 Empirical Literature Review**

#### **2.2.1 Increased in the level of households income as a result of accessibility of the market**

The study with an aim of assessing the determinants of rural income in Tanzania, an empirical approach, was conducted in Tanzania in 2010. The study covered a sample of 150 communities, 1239 enterprises and 1610 households in the seven region of Tanzania. Data were analyzed using regression analysis techniques. Based on the study's econometrics analysis, the variables that were found significant in determining the level of households income includes, demographic characteristics,

access to infrastructures (such as availability of water, road, electricity) and access to market.

The findings of the study indicate that annual income of rural household sampled averaged around TZS 480,000 per household. Dividing this income by the household labor force yielded a per capital income of roughly TZS 152,000 for rural working Tanzania in the surveyed area while to the recent households budget survey (HBS) indicates a per capital income of TZS 111,199 (NBS, 2007). The dependency level per household was approximately 41% even before income distribution to all households' members, the average per capital income of less than US\$150 is extremely low and signals abject rural poverty in the country (REPOA, 2010).

The level of education among respondent household head was also low 16.2% have no formal education, 65.9 had primary education, and 14.3% had secondary or higher level education. The proportion of household head who had not attended to school compared closely with national rate of male illiterate of 20% (HBS, 2007).

The causes of low income in rural areas are diverse, ranging from those confined to individual households to those extending to the community at large. Based on the study econometric analysis level of education of the household head, size of the household labor force, acreage of land used, ownership of non-farm rural enterprises, and gender of the household head, access to market and water were found to be significant in determined the household income in Tanzania. Lack of access to market was the other main constraints cited by rural households, as lack of road holds back the marketing process (REPOA, 2010)

The study was conducted to assess the trend in agricultural producers' income in rural Mozambique. The study assesses whether or not the Poverty Reduction Strategy (PARPA's) overarching goal of significantly reducing rural poverty is met, it evaluates trends in farmers' real incomes and income distributions over the last six years as well as the structure of household incomes in rural Mozambique. The results

are drawn from three nationally representative household income surveys. The main objective of this paper was to assess whether or not PARPA's goal of significantly reducing poverty incidence in rural areas between 2005 and 2009 (the period of the implementation of PARPA II) is met. The results suggest that PARPA II failed to enhance farmers' income, and thus poverty incidence in rural Mozambique may have remained fairly constant over the last six years.

Nevertheless, consumption based poverty measures, which PARPA II's poverty goal is based on, may give other results, because income tends to overstate poverty. Enhancing farmers' incomes requires in part a diversification of income sources, but such strategy may not have a significant impact on poverty reduction in the short-run because breaking some of the barriers into high paid self-employment activities is rather a long-term investment in education and financial capital (Cunguara & Kelly, 2012).

Given the importance of rain-fed agriculture both as a source of employment and its contribution to total household incomes, reducing rural poverty in the short-run may require more investments in the agricultural sectors such as access to market. Subsequent poverty reduction plans should help spur growth in the agricultural productivity, via adoption of improved technologies and irrigation use/water conservation technologies. Poverty profiling provides valuable information to target the poor (Cunguara & Kelly, 2012).

Female headed households are found to be consistently disadvantaged. Moreover, poor households have smaller land and livestock holdings, receive extension visits less often, and tend to adopt improved agricultural technologies with less frequency. The use of improved agricultural technologies has the potential to enhance farmers' incomes, but counteractive measures should be put into place in order to promote and sustain its adoption (Cunguara and Kelly, 2013).

Poverty in rural Mozambique has been reported to have many dimensions. The first dimension relates to demographic characteristics. We find that male headed households have significantly greater incomes than their female counterparts. One explanation is that women are significantly less educated than men, and hence they will have less income opportunities outside the agricultural sector, *ceteris paribus*. A second possible explanation is that female headed households usually have more dependents, and hence fewer members contributing to the total household income. A third explanation may have to do with cultural reasons where women play a relatively smaller role in off-farm activities of high return while helping more with household chores and child caring (Burton and White, 1984).

Poverty has also an occupational dimension. Households whose head is either salaried or self-employed tend to be relatively well-off. The promotion of jobs and self-employment opportunities is likely to reduce poverty, provided that the poor can take up such opportunities, especially the high paid activities. Participation in off-farm activities has the advantage of providing a steadier income source (Reardon et al., 1998).

The results also highlight the importance of improved agricultural technologies. Those who use animal traction, fertilizers, and pesticides attain higher productivity levels which then translate into better incomes. This is related to another poverty dimension, the asset-dimension. Asset-poor households are usually unable to invest in improved technologies. All these poverty dimensions prompt development policy to target the poor, and poverty profiling is fundamental in identifying the target group

The Impact Assessment of Rural Wholesale Markets Constructed under MVIWATA Market Development Programmes done in 5 rural markets of Tanzania in 2012, the findings indicated that the determinants of farmers income depends on increased production of the agricultural produce, increased producers price, bargaining power of smallholders farmer and access to financial services.

There were notably increased in production and supply of agricultural produce to the markets after the construction of market in the areas, the bargaining power of the smallholders farmer increased compared to before existence of formal market, but farmers who have access to market information through the use of mobile phone are more likely to sell their rice at higher prices. The results of this study imply that improved access to market information through the use of mobile phones improves farmers bargaining power against traders enabling them to sell their rice at higher price, and hence increase their income (Yamada, 2012).

### **2.2.2 Improved Access to basic services and infrastructure in rural areas**

The study was conducted to assess rural services, infrastructure and their impact on agricultural production, marketing and food security in Tanzania, a research Project which was funded by IFPRI Eastern Africa 2020 Vision Network. The finding indicates that Tanzanian's rural infrastructures are extremely poor and underdeveloped and their provision has remained solely the responsibility of the government partly was a continuation of a socialists management during the early years.

The status of the service provision compares unfavorably with neighboring countries like Kenya and with Sub - Saharan African (SSA) Countries in general. The main problem is that services and infrastructures are only available in few areas but used by a larger, broadly scattered population and settlements. This translates to high transaction costs for rural, predominantly smallholders agricultural producers. The underdeveloped infrastructures and rural services are ubiquitous in the country, but differences between administrative regions are small, and those expected between the north and the south are not borne by the evidence. However, such differences are noteworthy between urban and rural areas, the latter being significant disadvantaged (Temu, et al, 2002)

### **2.2.3 Economic development of farmers in rural areas as a result of existence of rural market**

The Research in social organization as factor affecting rural economic growth in developing society: theoretical and methodological challenges were done by International Journal of Asian Social Science in 2013. The research assesses tendencies in Economic Development of Rural Territories in Contemporary Developing Societies, Considering Social Organization as Factor Affecting Rural Economic Growth in Developing Society. The struggle for rural economic growth in contemporary developing countries is taking place in the very dynamic structural and institutional context (Azer and Pavel, 2013).

First, occupying vast majority of fertile land developing countries in Africa (Madagascar, Mozambique, Tanzania and others), Latin America (Argentina, Brazil) and Eurasia (Russia, Ukraine, Kazakhstan) attract growing interest of both domestic and foreign investors from rich Western and Asian countries which have to supply growing demand for food (Visser and Spoor, 2011). This leads to increasing investment in rural territories and establishment of large farm enterprisers which often hire foreign managers and implement new managerial practices and modern technologies thus significantly changing rural environment in developing countries (Visser et al., 2012).

On the one hand, this phenomenon may be analyzed from a positive angle with a focus on the growing investment in the agricultural sector. On the other hand, some criticism in literature is directed on the increased powers of global “food regimes”, dominated by multinational companies (McMichael, 2009), and their role in the so called transnational “land grabbing” (Visser and Spoor, 2011).

Second, at the same time in fertile rural territories in developing countries significantly grows activity of small and middle-size private farming and entrepreneurship. As World Bank’s report on agricultural development notes: “on-farm investments, reflected by the volume of agricultural capital stock, have increased over time, with the increase concentrated in low- and middle-income countries.” (World Bank, 2012). Key role in stimulating small scale agricultural

production is played by governments of these countries which provide targeted support for family farms and households. For example, in Mexico governmental programme has led to increased land use, livestock ownership, crop production and agricultural expenditures which resulted in greater likelihood of operating a microenterprise (Todd et al., 2009; Gertler et al., 2012).

In Malawi the special social protection programme also increased on-farm investment and production (Covarrubias et al., 2012). In Argentina, one of the world's top four food exporters, in 2010 special programme aimed at boosting family farming was started (Inter-American Development Bank, 2010). In Russia in 2006 the special "National Project" was initiated with three major goals one of which was to stimulate development of small scale agricultural production. It is particularly interesting that by the end of the 2006 banks receive so many applications for credits that government had to increase financial support in twice (Barsukova, 2013).

These tendencies illustrate the complicated character of economic development in contemporary developing countries. Their rural economic growth is based upon processes that may seem to be controversial which causes ambiguous assessments from researchers (McMichael, 2009).

#### **2.2.4 The impact of rural market in development of smallholder farmers**

The study was conducted to assess the impact of rural agricultural market in reducing poverty in Tanzania with the case of MVIWATA, a research Project funded by Alliance for a Green Revolution in Africa (AGRA) in 2014. The evidence from the study shows that improved rural agricultural markets work and can be a major driver for improving agricultural practices and enhancing farmer incomes, assured market, promote fairness on price, encourage downstream investments, encourages new opportunities and farmer empowerment.

The study sought to find out if the markets can be run solely by farmers. The conclusion arrived at is that this can be achieved to some extent depending on the gestation period of support. Financially, the shortfalls identified are found in the

expansion programme and costs related to capacity building. MVIWATA has laid emphasis on capacity building of farmers and staff members. The members of staff have been employed from around the community. They are supported by representatives of various community groups. Thus in essence, the community has the knowledge of how to run the markets (Okore, 2014).

The study was conducted to assess the accessibility of agricultural market information and its contribution for economic development of small scale farmers in 2014, an analysis was conducted to measure if access to price information has contribution on collective selling, change in income, change in production level, change in sale volume and change in selling price of agricultural crops. An assessment was also conducted to measure the access to information on crops demanded in the market contribute on increase of farmers income, increase in crop production, increase sales volume and increase of selling price of farmers crops(Gabagambi, 2012).

Finding of this study indicate that access to agricultural marketing information has a contribution on economic development of farmers, the access to information on price and traders facilitated increase in selling price of their crops. The results of the finding indicated that generally accessibility of price information and information for crops demanded in the market has a contribution to the economic development of small scale farmers. It was also found that when farmers have no information on prices offered in the market they are being cheated and offered low price. The finding from vegetable producers indicated that they have been increasing area of their farm basing on information of demand (Elly, 2014).

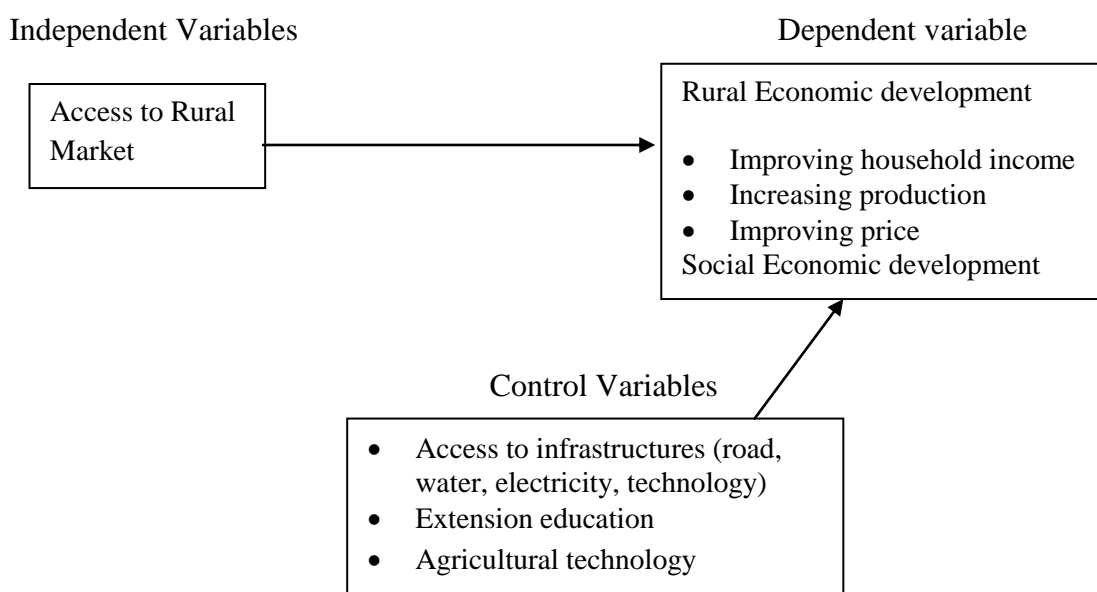
### **2.3 Conceptual framework**

Rural Market is expected to be a critical element of improving rural economic development. Improving access to market information, products output and inputs, road, communication, technology , land and water and financial services such as saving and credits enable the rural poor to smooth their consumptions, manage their

risks better, gradually build their asset base, develop their market enterprise, enhance their income earning capacity, and enjoy an improved quality life (Pilipinas, 2002: IFAD, 2004). Researchers argue that the Rural Market are useful as they reduce poverty and facilitate smooth development of the rural people through increasing income and standards of living, empower women, and develop the business sector through growth potentials and develop a parallel rural development (Ward, Hite, 2002).

In this study it is expected that access to market in rural areas has an impact in improving development to small scale farmers economically, increasing the volume produced and prices at which farmers sell their crops, hence increasing the income of farmer. The study also investigated other factors which affect economic development of farmers, namely extension education, agricultural technology and agricultural credit. Availability of information for extension education, agricultural technology and agricultural credit is not sufficient to improve production but these services need to be available and used by farmers. Figures 2.1 below represent the conceptual relationship between the role of rural market and rural economic development.

**Figure 2.1: Conceptual framework**



**Source:** Agnes, 2010

## Variable measurement

Table 2.1 shows measures used for measuring economic development. The measures used to measure economic development of farmers are quantity produced, price received, quantity sold and income, road networks, water, electricity and health. During this study these measures were used because it has been used by different researchers as indicated in table 2.1., also generally farmers and other agricultural actors have been using these factors as indicator to measure changes in agricultural development.

As indicated in table 2.1, there are other social economic factors that were considered such as adequate shelter, education, location, type of crop produced, gender, age and education.

**Table 2.1: Measurements of the Variables used in the study**

Variables	Measurement	Source
Economic development	<ul style="list-style-type: none"> <li>• Quantity produced</li> <li>• Price received</li> <li>• Quantity sold</li> <li>• Introduction of new/profitable crops</li> <li>• Income</li> </ul>	Agnes, 2010, Aloyce,2005, Ibrahim 2007, Jakob 2010, Nowakunda, et al, 2010, Muganga, 2011, Yamada 2012,
Social economic development, basic services and infrastructure	<ul style="list-style-type: none"> <li>• Type of commodity produced, location, Gender, Level of education, Age</li> <li>• Road networks, access to water, electricity, health and education</li> </ul>	Aguero 2009, Barbabas, 2010, Binayee, 2005, Kizito, 2012, Marcel 2011,

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

The term methodology is a way to systematically solve a research problem (Kothari 2004). This research methodology section focuses on the methods that were used for this study with the aim of achieving the research objectives. The section describes the type of the study, study area, study population, the sample size, sampling techniques, data collection and analysis methods.

#### **3.1 Study Design**

In conducting the study, a case study approach was used because of its flexibility in data collection, and it helps to get in-depth information and multi-dimensional understanding of the phenomenon. A sample of respondents from the village where the rural Market was well established, was taken and interviews conducted through administration of questionnaires to collect the necessary information and data on the role of rural markets on rural economic development.

#### **3.2 Study Area**

The study took place in the period between October and December 2014 and it covered Nyandira village in Mvomero district, Morogoro region of Tanzania. These areas form part of MVIWATA areas of interventions and is among the areas where a rural market was constructed by MVIWATA which serves for the rural population. Services and works performed by the market is to facilitate rural farmers' access to reliable markets and better price for agro- produce. For that reason the selected area of study enabled better generalization of the findings Kothari (2004).

The analytical procedure for this study was implemented using both qualitative and quantitative methodologies. The approach involved participation of farmers and other actors in the system, which was crucial for the sake of ownership. In this regard, it was important not to approach the target groups as if they were one unity but rather to have attention for specific members of groups like porters, brokers,

market management, farmers, knowledgeable informants, traders, consumers, government officers at local level, etc. During the field visits it was important to take into account the diversity of the target group and different approaches were used to reach all the respondents of the study Kothari (2004).

### **3.3 Study Population**

The target population for this study was 3500 households who were small scale farmers involved in producing vegetables in Nyandira villages from Morogoro regions. The population was selected because in this village there are market facilities existing where farmers and traders meet for business on agricultural crops, small scale farmers being the major target. The market infrastructure is linked to economic activities dominated by trade of agricultural produce. In this study farmers were expected to provide relevant and valid information about the accessibility and use of market information in their villages. Respondents were sampled from the population of farmers at village level and other specific members of groups like porters, brokers, market management, farmers, knowledgeable informants, traders, consumers and government officers at local level.

### **3.4 Sample size and Sampling technique**

According to Kothari (2004), the knowledge gained from the sample is representative of the total population under study. The sample size of the study comprised of 150 respondents from Nyandira village who are vegetables producer. A total of 150 questionnaires were distributed to be filled by farmers, at the end 120 questionnaires were collected and used for analysis. The interview of 20 key informants were done to local government officers, staff and the Board of Directors of the market. Statistically this sample was enough to represent population the village population (Bailey, 1994).

The study employed both probability and non-probability sampling methods. The probability sampling technique which was used was simple random sampling technique, where each respondent had equal chance of being selected. The non-

probability sampling techniques which were used to get the study sample included purposive and simple random sampling methods.

Purposive sampling was employed in selection of ward, village leaders and other local government leaders and key informants. Identification of farmer groups paved the way for simple random sampling technique to be used. This was used to ensure that all farmers had an equal chance to participate in this study. This resulted into selection of a sample of 140 respondents.

**Table 3.1: Sample Distribution of respondents used in the study**

<b>Data Collection Techniques</b>	<b>Number of Respondents</b>
Vegetable Producers	120
Key Informants (local government officers, staff and the Board of Directors of the market, traders, brokers)	20
Total	140

**Source:** Survey data

### **3.5 Data Collection Method**

During the study the researcher used both primary and secondary data. Secondary data was collected through documentary review of published materials such as reports, newspapers, books, pamphlets, journals and other relevant information concerning the accessibility of agricultural market information to farmers.

Primary data was collected by the use of questionnaires and interview to key informants. Questionnaires were administered to all members in the selected sample and the interview to key informants to District Agricultural Advisors, District Agricultural Irrigation and Cooperative officers, Extension officers, MVIWATA management, local government leaders and Nyandira market Management. Since the research was dealing with small scale farmers so the questions was structured in Kiswahili language. This enabled respondents to express themselves well without any language barrier.

### **3.6 Reliability and Validity of the collected information**

To ensure reliability and validity of the collected information, the following steps were followed during the course of this study:

**Training:** All the enumerators were rigorously trained to ensure that they understand the questionnaire and steps of research approaches.

**Translation of Questionnaire:** The questionnaires were translated in Swahili to ensure common understanding of the questions and thus, allow enumerators to make accurate interpretations.

**Supervision and counter-checking:** There was close supervision and monitoring of enumerators in the field to minimize chances of enumerator errors and omissions.

### **3.7 Data Analysis and Presentation**

The data collected were analyzed using simple descriptive statistics and presented in form of figures and tables. Data analysis, provided an opportunity for the researcher to draw conclusions and recommendations from the study.

#### **a) Quantitative Data**

Data collected from farmers households through questionnaires were processed and analyzed using the simple descriptive statistics.

- i) Measures of central tendencies were used to analyze quantitative data which included frequency distributions, percentages, mean and ranges.
- ii) Results of the analysis were presented in tables, graphs, charts for ease of understanding, comparison and interpretation.

#### **b) Qualitative data**

Data from Key Informant Interviews (KIIs) formed the basis of qualitative data. These data were analyzed as follows:

- i) Field notes were taken during the KI interviews based on the guide tool provided. During the interview, notes were recorded in script under each question. During analysis, the transcribed notes from the various respondents/meetings, and response by question, were compiled into various

response categories. The responses given under each of the different categories were similarly compiled.

- ii) From the different groups and categories of responses, a summary of key messages and themes were identified as well as the explanations/arguments given. By comparing and correlating the qualitative and quantitative data, it was then possible to qualify, augment and triangulate the field findings. On that basis, suitable conclusions and recommendations were made.

## CHAPTER FOUR

### PRESENTATION OF FINDINGS

This chapter presents findings of the study, it shows the characteristics of the sampled farmers, level of house hold income at Nyandira village, level of improved access to basic services and infrastructure in rural areas (e.g. education, road networks, health, and sanitation) as a result of the market in the area and the level of economic development of farmers at Nyandira based on existence of rural market facilities.

#### 4.1 Demographic characteristics

##### 4.1.1 Age of the respondents

A sample of 120 households was used and were given questionnaires, the age distribution of this sample was as follows: 2 (1.7%) respondents belongs to an age group of less than 18 years, 50 (41.7%) respondents belongs to an age between 18 and 35 years, 59 (49.2%) respondents belongs to age group between 36 and 55 years, while 29 (7.5%) belonged to an age group of more than 55 years. It was therefore noted that respondents who were from 18 – 55 years of age were more involved in responding to the questionnaires, indicating that members of this age group were highly involved in market activities in Nyandira village. The age distributions are shown in table 4.1.

**Table 4.1 Age distribution of respondents used in the current study**

Age Group (years)	Frequency	Percentage (%)
Below 18	2	1.7
18 – 35	50	41.7
36 – 55	59	49.2
Above 55	9	7.5
<b>Total</b>	<b>120</b>	<b>100</b>

**Source:** survey data

#### 4.1.2 Gender of respondents

Of the sample used for the study, 73 (60.8%) of the respondents were male while 47 (39.2%) were female. The low number of female respondents is explained by the fact that in most cases, males were more involved in market activities than female.

#### 4.1.3 Education level of respondents

Regarding the education level, the study revealed that 3 (2.5%) respondents had informal education, 110 (91.7%) primary education and 7 (5.8%) respondents had secondary education. Most of the respondents had primary education, revealing that activities carried out in Nyandira market were mostly done by people with primary education level.

#### 4.1.4 Types of Crop cultivated

The respondents were coming from Nyandira village in Mvomero district of Morogoro region. A researcher analyzed the main crops that were cultivated by farmers, and data indicated that a total of 63(52.5%) respondents mainly grew vegetables, 57 (47.5%) of the respondents grew both vegetables and cereals. Most of the farmers were producing vegetables, this revealed that the main traded commodity in the Nyandira market were vegetables, hence their main source of income depended on vegetable crops. Table 4.2 below summarizes the types of crops that were cultivated in Nyndira village.

**Table 4.2: The type of Crops that were cultivated in Nyandira village**

Type of Crop	Frequency	Percent
Vegetable only	63	52.5
Vegetable and cereals	57	47.5
<b>Total</b>	<b>120</b>	<b>100</b>

Source: survey data

## 4.2 The level of house hold income at Nyandira

In determine the increase in level of household's income the study assesses the income generating activities that related to the market, size of land cultivated, contribution of rural market to household's income, trend of income for the past five years, increase in agricultural production and its influence on increase in farmers income, increased producer prices and farm income, bargaining power of small scale farmers, increased number of traders and trading activities.

### 4.2.1 Income generating activities that related to market

A study also assessed the income generating activities of the respondents which were linked with the market activities. It was found that most of the respondents who involved in market activities were farmers. The findings indicate that 93 (78.2%) of the respondents were involved in farming activities, 2 (1.7%) were doing entrepreneurial activities (business), 3 (2.5%) were involved in livestock keeping and 21 (17.6%) were involved in number of activities i.e. farming, businesses and livestock keeping as indicated in table 4.3.

**Table 4.3: Income generating activities that related to market in Nyandira**

Activities	Frequency	Percentage (%)
Farming	93	78.2
Business	2	1.7
Livestock keeping	3	2.5
Several activities	21	17.6
<b>Total</b>	<b>119</b>	<b>100</b>

**Source:** survey data

### 4.2.2 Farm size cultivated per year

It was found that 119 (99.2%) of the respondents cultivated 1 – 4 acres per year, while 1 (0.8%) cultivated 5 – 10 acres per year and there was no farmer with farm size more than ten acres. This reveals that, in the research area most of the farmers who were involved in market activities were small scale farmers. The summary of farm size cultivated per year and the percentage of respondents for each category of farm size is given in Table 4.4

**Table 4.4: Categories of farm size cultivated per year in Nyandira village.**

<b>Farm size</b>	<b>Frequency</b>	<b>Percent</b>
Between 1 – 4 acres per year	119	99.2
Between 5 – 10 acres per year	1	0.8
Above 10 acres per year	0	0
<b>Total</b>	<b>120</b>	<b>100</b>

**Source:** survey data

It was further noted that of those who involved in farming activities 119 (99.2%) owned their farms while 1 (0.8%) did not own the farm used in cultivation. It was further explained that those who owned their farms, 75 (62.5%) obtained ownership through inheritance, 41 (34.2%) purchased their farms and 4 (3.3%) of the respondents rented farms. This data reveals that most of the farmers who own the farms in Nyandira either inherited, purchased them or both.

On assessing the farm size, respondents indicated that 84 (70%) of the farmers had made efforts to increase their farm size, while 36 (30%) of the farmers had decreased their farm size. Those whose farm size decreased, 96.8% of the respondents explained that it decreased by half while 3.25 % of the farms decreased by three times; on the main reasons that caused the decrease in farm size, 40.9% of the respondents explained that the decrease was caused by soil erosion, 9.1% of the farm decrease was due to climatic changes and 50% of the respondents explained that the decrease in farm size was due to increase in family size, lack of good price for their produce, lack of main roads to the farming areas, increased price of agricultural inputs such as fertilizers and seeds, high costs of production, and the decrease in productivity of land cultivated.

#### **4.2.3 Rural market and its contribution to house hold income**

The assessment of the level of house hold income of respondents per year was done to determine the amount of income that came out of rural market related activities. The results indicated that 44 (38.3%) of the respondents had income levels between

TShs 100,000 – TShs 500,000 per year, 36 (31.3%) had income levels between TShs 500,001 – TShs 1,000,000 per year, 15 (13%) had income levels between TShs 1,000,000 – TShs 1,500,000 per year, 8 (7%) had income levels between TShs 1,500,001 – TShs 2,000,000 per year, while 12 (10.4%) of the respondents had income levels between TShs 2,000,001 and above. Table 4.5 below summarizes the level of income per year.

**Table 4.5: Level of Income per year for respondents who participated in rural market activities at Nyandira.**

<b>Income level</b>	<b>Frequency</b>	<b>Percentage (%)</b>
100000 – 500000	44	38.3
500001 – 1000000	36	31.3
1000001 – 1500000	15	13
1500001 – 2000000	8	7
Above 2000000	12	10.4
<b>Total</b>	<b>115</b>	<b>100</b>

**Source:** survey data

Most of the farmers as indicated in the Table 4.5 above, had annual income between TShs 500,001 – TShs 2,000,000 and above Tshs 2,000,000. This was about 61.7% of the respondents. This reveals that 61.7% of the farmers had daily income of \$1 and above, this is a good indicator for economic development.

#### **4.2.4 Income trend for the past five years**

An assessment was done to review the trend of income for the past five years in order to determine whether there was an increase in the level of income or not. A total of 117 farmers responds were used of which 63 (53.8%) responded that their income increased due to market associated activities over the past five years, while 54 (46.2%) responded that their income decreased over the past five years, the notable indicators for increase in income is general life improvements including building of new and modern houses, able to pay school fees, increased area of production, able to purchase basic needs such as food, shelter and clothing others stored their monies into SACCOs as savings.

In assessing income trend that increased over the past five years 55 (77.5%) explained that it increased two-folds 11 (15.5%) explained that it increased by three times and 5 (7%) explained that their income increased more than three times (table 4.6).

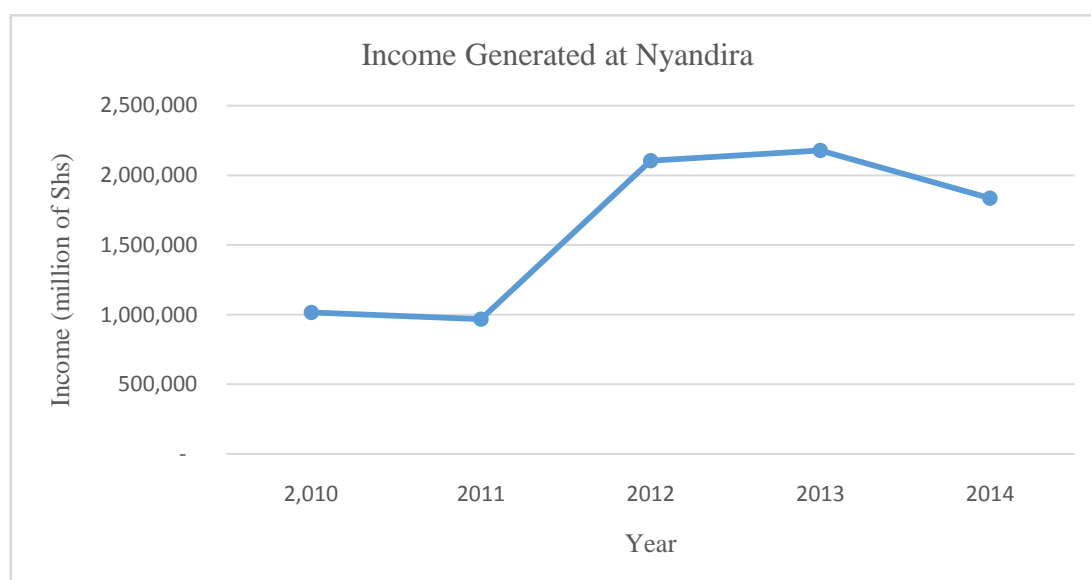
**Table 4.6 Changes in household’s income for the past five years**

	<b>Frequency</b>	<b>Percentage (%)</b>
Households whose income increased two-folds	55	77.5
Households whose income increased three times	11	15.5
Households whose income increased more than three times	5	7
<b>Total</b>	<b>71</b>	<b>100</b>

**Source:** Survey Data

In general the total income increased from TZS 1,017,484 million in 2010 to TZS 1,836,206 million in 2014 (figure 4.1) this is 80% increase. This increase is associated with increase in price of produce, increase in production and access to the reliable market.

**Figure 4.1: Trend of Income generated at Nyandira for the past five years**



**Source:** Plotted from data obtained at Nyandira market

The study further assessed the reasons for decreased income trend over the past five years. The respondents explained that the reasons for the decreases in their income level were health problem (14.5%) of the respondents, natural hazards such as floods (20%), decrease in productivity (36.4%) and 29.1% respondents explained that was caused by the increase in price of the agricultural inputs such as fertilizers, decreases in soil fertility and increased number of persons involved in farming activities.

#### **4.2.5 Agricultural production and its influence on increase in farmer's income**

Respondents visited in Nyandira village revealed that there had been notable changes in resource allocation at farm level with consequential increased crop outputs for areas of influence of the respective Nyandira market. There was consensus among respondents that construction of the market has stimulated production, the number of trucks leaving the area full of fruits and vegetables has increased significantly following marginal increase in land expansion and intensification because the topography of the areas (hills and mountains) does not favor significant land expansion.

It was also expected that the market would induce specialization in the production process of crops as per “market induced development paradigm” which holds that efficient marketing system generates prices that induce economic development through influencing specialization and diversification at farm level<sup>1</sup>. In other words, the number of crops grown in individual farms was expected to drop in order to give room for production of more vegetables whose price has improved. But this did not happen; farmers still grew the same number and types of crops they used to grow even before the market was established.

Discussion with respondents revealed that the market has not resolved the problem of risk and uncertainty in farm production. Farmers still face risks such as drought,

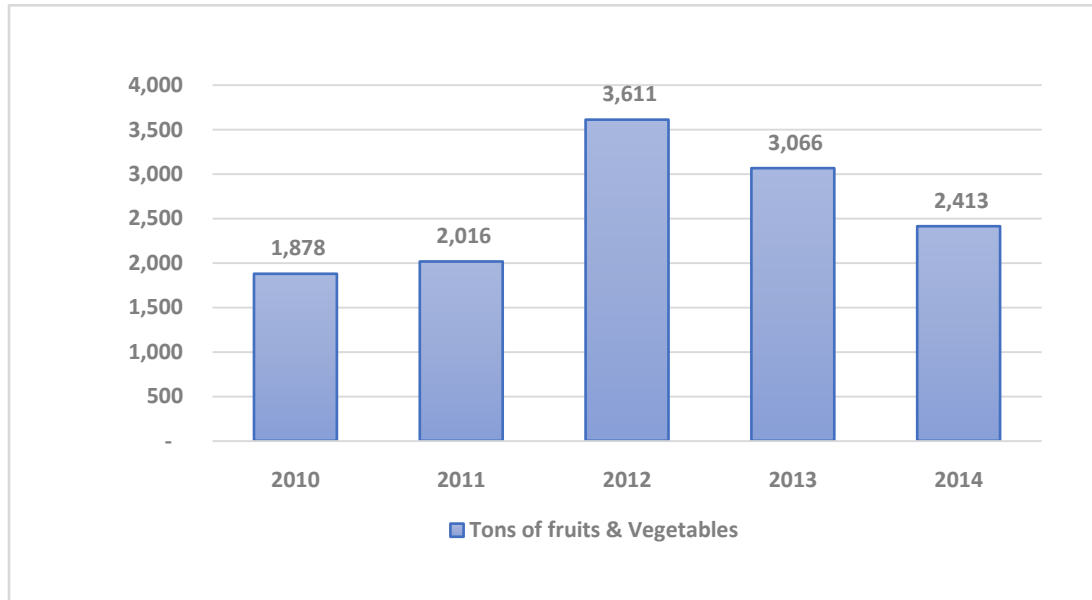
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<sup>1</sup>Von Oppen, M. and Gabagambi D. M. (2003). Contribution of Markets to Agricultural Productivity: Evidence from developing countries. *The Quarterly Journal of International Agriculture* Vol.42 N\o.1: 49-61.

floods, price fluctuation, and general crop failure. Thus, they have to grow several crops as a risk coping mechanism. In addition, stakeholders argued that growing many crops is related to poor access to financial services.

It was necessary to substantiate some of the observations above using available statistics from the market offices. At Nyandira it was also asserted that before the market was constructed, the average area under cultivation was about 0.25 acre; this has increased to 4 acres for the majority of farmers after the vibrancy of the market. Consequently the supply at the market has been increasing over years. Market data for the years 2010-2014, suggest an increase of market volume of 28% from 1,878 tons to about 2,413 tons of fresh vegetables in 2010 (Figure 4.2), this consequent lead to increase in farmers income.

**Figure 4.2: Supply trend (in tons) at Nyandira vegetable market**



**Source:** Plotted from data obtained at Nyandira market

The researcher has carried an assessment to determine whether most of the respondents produced their own food and hence make food available and accessible, and that there is no food shortage and available food can be affordable. Of 118

respondents, 107 (90.7%) produced their own food for consumption, while 11 (9.3%) purchased food for consumption. Results revealed that most of the respondents produced their own food as summarized in Table 4.7.

**Table 4.7: Sources of food in the household level at Nyandira village**

	Frequency	Percentage (%)
Households who Produce consumed food	107	90.7
Households who Purchase consumed food	11	9.3
<b>Total</b>	<b>118</b>	<b>100</b>

**Source:** survey data

The study further assessed availability and stability of food in the year. Out of 117 respondents, 79 (67.5%) indicated that they had food shortage in a year in their families, while 38 (32.5%) had no food shortage. Of the respondents who had food shortage, 48.7% had food shortages for a period of 1 – 3 months, 48.7% had food shortage for a period of between 4 – 6 months and 2% reported food shortage between 7 – 9 months. These results revealed that most of the respondents had food shortage for a period which ranged between 1 – 6 months.

The study also assessed how food shortage was overcome by the respondents in the research area. Out of the 78 respondents, 1.3% received food aid, 96.2% purchased food and 2.6% obtained food through barter trade. Of those who received food aid, 50% of the respondents received food aid from the government, 25% from the partners and 25% from other sources.

#### **4.2.6 Increased Producer Prices and Farm Income**

An assessment was done to determine whether the price of produce increased as a result of increased farm income. The study indicated that despite the good prices of agricultural produce offered by the Nyandira market, 118 respondents 61 (51.7%) explained that the level of the market contribution to prices of agricultural produce increased, 48 (40.7%) indicated that there was decreased contribution of market to prices of agricultural produce, while 9 (7.6%) explained that there was a constant

contribution of market to prices of agricultural produce. The reaction of respondents on the contribution/influence of the Nyandira market to prices of agricultural produce is summarized in Table 4.8.

**Table 4.8: Contribution of market to price of agricultural produce**

	Frequency	Percent (%)
Price of agricultural produce increased	61	51.7
Price of agricultural produce decreased	48	40.7
Constant Price of agricultural produce	9	7.6
<b>Total</b>	<b>118</b>	<b>100</b>

**Source:** survey data

The researcher further assessed the trend of prices of agricultural produce through interview of key informants. All the respondents visited acknowledged an increase in farm income since the market was constructed. This acknowledgement was reflected by the number and amount of crops arriving at and or/leaving the Nyandira market. Such a trend indicated that income levels also increased as a result of existence of the market in Nyndira.

In assessing the role of the market and its contribution to the marketing and sales of agricultural produces in Nyandira village, data were analyses to determine whether the respondents sold their products immediately after harvest or stored their produce after harvest before selling in order to realize more profit. . Out of 116 respondents, 115 (99.1%) indicated that they sold their produce immediately after harvest, 1 (0.9%) respondent indicated he stored his/her produce after harvest. Of 118 respondents who produced and sold their produce, 116 (98.3%) sold in the market and 2 (1.7%) sold their produce at home. Table 4.9 summarizes the location where farmers sold their produce after harvest.

**Table 4.9: Location where small holder farmers sold their agricultural produce in Nyandira village.**

<b>Location of Sale</b>	<b>Frequency</b>	<b>Percentage of farmers (%)</b>
Sales at Home	2	1.7
Sales at Market place	116	98.3
<b>Total</b>	<b>118</b>	<b>100</b>

**Source:** survey data

Results revealed that, most of the agricultural produce in Nyndira were sold in the formal rural market. Therefore, market played a great role in income generation of the farmers in the area.

In assessing whether the produce were sold at good/profitable market price the study indicated that out of 117 respondents, 60 (51%) indicated that prices offered in the market were good and profitable while 57 (49%) of the respondents indicated that the prices is not good enough for them to realize profit.

An assessment was done to determine whether the existence of the market enabled farmers to easily sell their produce than before the establishment of the market. Out of 116 respondents who sold their produce to the Nyandira market, 114 (98.3%) indicated that it was easy to sell their produce than before the market existence and 2 (1.7%) responded that there was no any impact of the market on selling their agricultural produce.

#### **4.2.7 Bargaining power of small scale farmers and its contribution to increase in price of produce**

The study also analyzed the bargaining power of the producers (farmers) in the Nyandira market to determine its contribution to increase in price of produce and hence increase in income. Out of 118 respondents, 56 (47.5%) responded that their bargaining power with traders had increased, while 62 (52.5%) responded that the bargaining power with traders had decreased as shown in the table 4.10.

**Table 4.10: Bargaining power of farmers in negotiating price of produce**

	<b>Frequency</b>	<b>Percentage (%)</b>
Farmers who has increased their ability to negotiate price with traders at the market	56	47.5
Farmers who has decreased their ability to negotiate price with traders at the market	62	52.5
Total	118	100

**Source:** Survey Data.

The increase in bargaining power was associated with increase in the knowledge of agribusiness, ability to keep track of production costs, and selling their produce directly to buyers without using brokers or middlemen. The decrease in bargaining power was associated with inclusion of brokers or middle men in their marketing process/channel. The study also revealed that producer prices for agricultural commodities sold through the Nyandira market generally increased as a result of increased competition among traders, buyers and the use of standard weighing scales during marketing of the produce. Before the market was constructed, the trading/marketing system was based on unstandardized measuring units such as bags and tins. Therefore, the existence of the Nyandira market has increased transparency in price determination. In 2014 at Nyandira market, there were 6,195 buyers competing for buying farmers' vegetables produced in the area. However, the benefits accrued by farmers are curtailed by presence of a multitude of brokers (dalali) who sell vegetables on behalf of farmers at a commission. The brokers have become a dilemma at the Nyandira market.

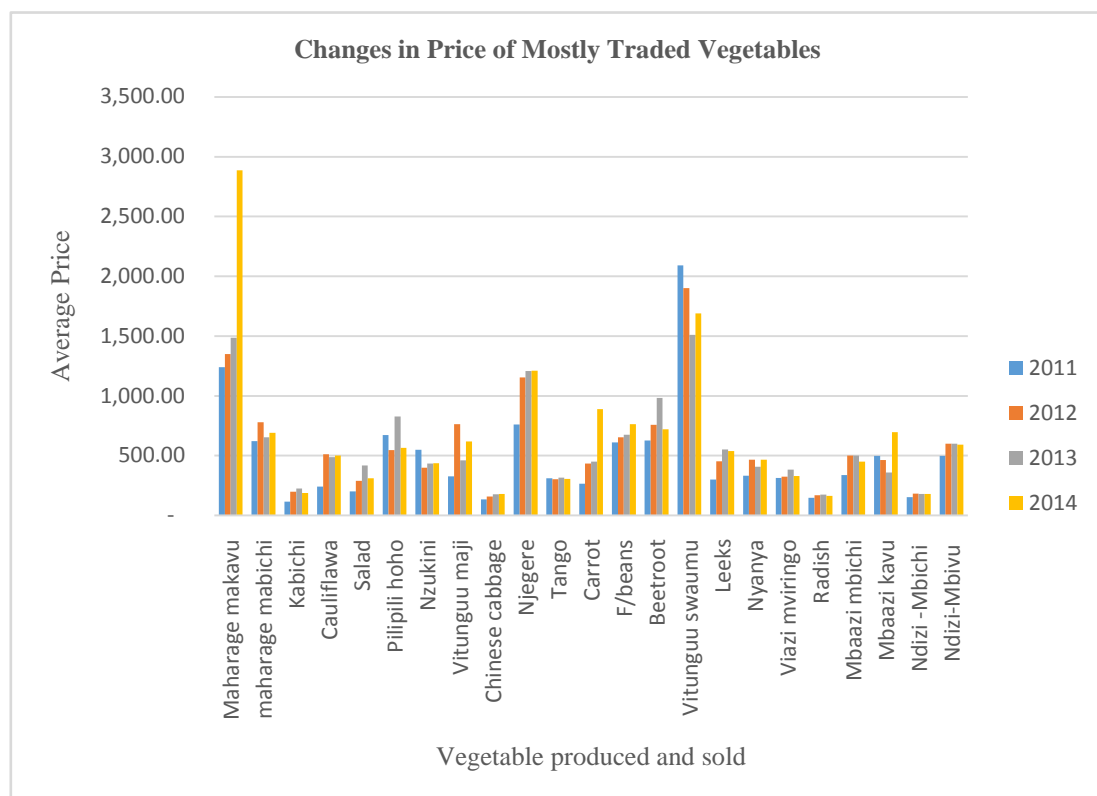
It was noticed that the average price for all products produced and sold at the market has increased from TZS 542 per kilogram in 2010 to TZS 761 per kilogram in 2014, 40% increase. Generally the increase in price leads to increase in farmers income and households income, the reasons for these increase have been explained many factors noted above including increased in bargaining power, figure 4.3 indicates the changes in price of mostly traded agricultural produce sold at the market.

In connection with the above, strong sentiments against brokers were registered. Many stakeholders felt that brokers and middlemen were exploitative in nature in the

sense that they charged high prices to traders but offered low prices of produce to farmers.

However, the fact that brokers emerged naturally at the Nyandira market indicates that there is a special function that they are performing. That is why any decision to eliminate them must be taken cautiously. This is because elimination of brokers would not eliminate the functions they are performing. If they are eliminated, someone else must perform those functions. Elimination of brokers may result into serious loss of efficiency in the whole marketing system at the Nyandira market.

**Figure 4.3: Changes in price of mostly traded vegetables sold at Nyandira market**



**Source:** Plotted from data obtained at Nyandira market

Critical examination the data revealed that the reason why brokers persisted at the nyandira market market was because they had more market information than farmers and buyers. In a way farmers and buyers depended on them. Removing local brokers

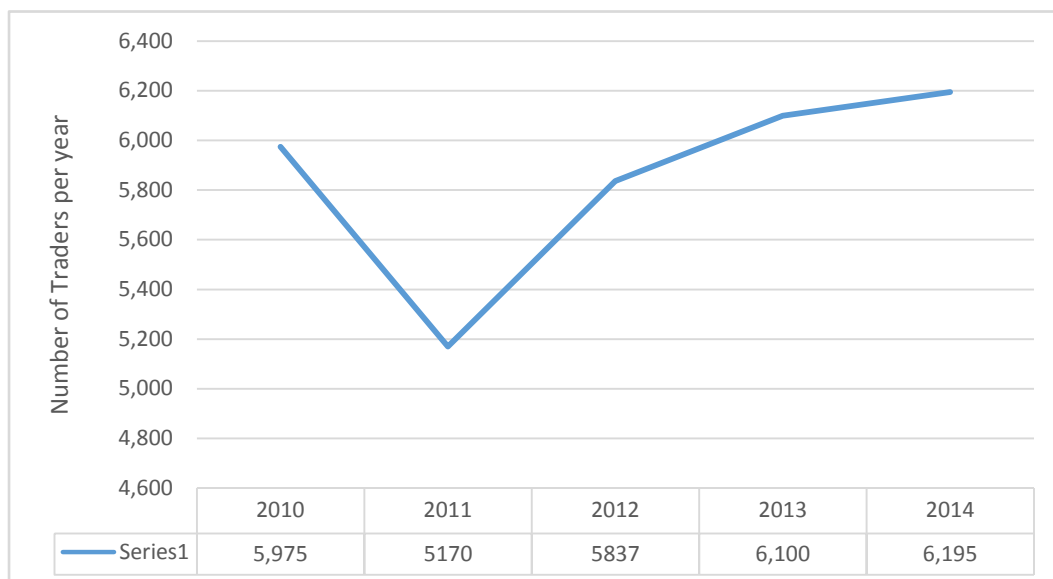
means that farmers and traders will have little market information, which may cause poor marketing processes. This is because local brokers were very trusted by farmers and buyers who contacted them by phone and sent money for purchasing the process for transportation to the buyers outside Nyandira village. Thus, if removed unceremoniously they may cause the market to collapse as they can convince traders and farmers to sell outside the market. The most important thing is that local brokers should be controlled by the market management so that they receive fair payment for their efforts.

#### **4.2.8 Increased number of traders for agricultural produce**

An assessment was carried to determine whether the market play a role in increasing the number of traders and marketing activities in Nyandira village. Out of 117 respondents covered by the study, 116 (99.1%) responded that existence of the market in the area lead to increased number of traders in the village, while 1 (0.9%) indicated that the presence of the market infrastructure did not influence the number of traders in Nyandira village.

Information obtained from Nyandira market indicates that traders increased from 5,975 in 2010 to 6,195 in 2014 (Figure 4.4) this is an increase of 4%. The increase of traders for the past five years is an indicator of increase in trading activities (buying and selling of goods and services) in the market, hence increased income of small scale farmers in the areas and other entrepreneurs.

**Figure 4.4: Number of traders at Nyandira between 2010 and 2014 as influenced by presence of the market infrastructure.**



**Source:** Plotted from data obtained at Nyandira market

### **4.3 Other improved social and economic factors of development at household level at Nyandira.**

Studies were carried out to assess whether there were other improved social and economic factors of development at households level at Nyandira based on the existence of the market. Factors considered included adequate shelter, education, access to agricultural inputs, access to finance, improved employment condition and new created employment by the market, contribution of the market to the livelihood of the community, and finally benefit obtained by the village through existence of market.

#### **4.3.1 Access to improved shelter**

An assessment was done to determine whether there is access to improved shelter. Out of 113 households who responded the questionnaire 45 (39.82%) responded

highly improved access to shelter, 52 (46.02%) medium improved access to shelter, 13 (11.50%) little improved access to shelter and 3 (2.65%) no improvement of access to shelter as shown in table 4.11. Those who responded highly or medium explained by increase in income level and accumulated of savings aided them construction of modern houses, increase in commercial buildings such as guests and bar, while those who explained little or no improvement in shelter explained by low income, consumption being higher than their income, increase in dependency and hence not being able to improve their shelter.

**Table 4.11: Improvement of access to shelter**

	Frequency	Percentage
Highly improved access to shelter	45	39.82
Medium improved access to shelter	52	46.02
Little improved access to shelter	13	11.50
No improved access to shelter	3	2.65
Total	113	100

**Source:** Survey Data

Discussion with stakeholders as well as physical observations indicates that an overall living standard of the people around the market has increased. There is increased number of modern houses built of burnt brick and corrugated iron sheets, and increased investment in commercial buildings. At Nyandira the old houses are now replaced with modern buildings. Modern buildings were seen emerging and replacing old and dilapidated ones.

#### **4.3.2 Access to education**

Another impact of the Nyandira agricultural market was observed on the number of pupils' who absconded from school, especially during market days at Nyandira. According to the Ward Education Coordinator and the Head teacher of Nyandira primary school, absenteeism from school was high during agricultural market days as children were involved in helping their parents to carry fruits and vegetables to the market. Yet others get involved in cutting grasses for traders, which they used in packaging tomatoes. Generally the trend of attendance at Nyandira primary school

was noted to decline over the years, especially for higher classes after establishment of the agricultural market (Table 4.12). In 2008, the attendance was 820 pupils; this dropped to 713 in 2012, such a drop was associated with existence of the market at Nyandira.

**Table 4.12: Trend of attendance at Nyandira Primary School (2008-2012) as influenced by the Nyandira agricultural market days.**

Year	Class (Standard)/attendance							Total
	1	2	3	4	5	6	7	
2008	109	137	116	163	67	152	76	820
2009	101	125	124	113	145	66	141	815
2010	116	88	105	104	108	126	59	706
2011	106	115	92	102	99	105	118	737
2012	142	102	109	83	95	92	90	713

**Source:** Ward Education Office at Nyandira

**Table 4.13: Trend of absentees in three primary schools at Nyandira (2010-2014) as affected by the agricultural market days.**

Year	School		
	Nyandira	Kibuko	Mwarazi
2010	30	30	80
2011	42	32	67
2012	45	26	61
2013	52	24	51
2014	54	24	59

**Source:** Ward Education Office at Nyandira

### 4.3.3 Level of technology used by farmers

In assessing the level of income of the household, the study analyzed the technology used by farmers to determine the level of technology used. The level of technology used by farmers was low, about 100% of farmers in the researched area used hand hoe, this was explained by the geographical location of an area which was mountainous which does not favor the use of other technologies like tractors.

The assessment was done to determine whether other agricultural technologies like the use of fertilizers were applied in order to increase the productivity and hence boost income of the respondents. Data indicate that 97.5% of the farmers used fertilizers in farming, 2.5% were not using fertilizers in farming. The results reveals that most of the farmers use fertilizers in farming hence leads to increase in production, the table 4.14 below indicates percentages of farmers who use fertilizers against those who do not use fertilizer.

**Table 4.14: Use of fertilizers in farming**

	Frequency	Percent
Farmers who use fertilizers in farming	117	97.5
Farmers who do not use fertilizers in farming	3	2.5
Total	120	100

**Source:** Survey Data

Of those who used fertilizers in farming, 1.7% used organic fertilizers only, 0.9% used inorganic fertilizers only and 97.4% used both organic and inorganic fertilizers. This analysis revealed that most of the farmers in Nyandira village used both organic and inorganic fertilizers in their farming activities see table 4.15.

**Table 4.15: Farmers who use different types of fertilizers in farming**

	Frequency	Percent (%)
Farmers who use Organic fertilizers in farming	2	1.7
Farmers who use inorganic fertilizers in farming	1	0.9
Farmers who use both inorganic and organic fertilizers in farming Both	114	97.4
Total	117	100

**Source:** Survey Data

#### **4.3.4 Accessibility and affordability of the fertilizer**

An assessment was carried to determine whether fertilizers were easily accessible at affordable prices. Results indicate that 100% of respondents accessed fertilizers easily, 77.4% responded that prices of fertilizer per one kilogram ranged between TShs 50,000 – TShs 70,000, 21.7% responded that prices of fertilizers ranged

between TShs 70,000 – TShs 100,000 and 0.9% responded that prices of fertilizers ranged between TShs 100,000 and above. The study also indicated that 62 (53.9%) responded that the fertilizer prices were affordable and 53 (46.1%) responded that the prices were not affordable in comparison with their annual income.

#### **4.3.5 Access to Financial Services**

Financial services (loans including storage loan, credit, savings, money transfer, etc) can play an important role in promoting trade at markets like those constructed by MVIWATA. This would eventually enhance market sustainability.

Because of increased money circulation in the area, financial services have emerged to minimize risks of carrying large sums of money. As has been implicitly pointed out previously, market transactions involve a lot of money that calls for existence of banking services in the area. Without bank services, buyers carry millions of shillings sometimes in their socks, pockets and brassieres – this is not safe as cases of robbery have been reported at Nyandira market.

At the moment there is no commercial bank in Nyandira, but there are electronic money transfers and storage using mobile phones (M-Pesa, TigoPesa, and Airtel Money) have become very common at Nyandira and play a major role.

Apart from electronic money services, Savings and Credit Cooperative Societies (SACCOS) have emerged to provide microfinance services. Of course this was part of the rural wholesale markets development project that constructed these markets. However, the SACCOS' are not operational as most of the credit extended were not recovered hence financial services collapsed

#### **4.3.6 Existence of market contributed to employment**

Results of the study indicate that out of 115 respondents, 110 (95.7%) indicated that existence of market have contributed to the employment opportunities in the researched area, 5 (4.3%) responded that the existence of market have not contributed to the employment opportunities in Nyandira village.

Those who responded that it create employment opportunities explained that employment created included food venders, shops, agriculture based activities (farming and livestock keeping), others employed by the market as watchmen, cashier, accountant, market manager, board of directors and revenue collectors.

#### **4.3.7 Activities that were done depending on the market**

In assessing activities done based on the existence of the market, data analysis showed that 99 (83.9%) respondents indicated that the activities done which depended on the market were farming, Livestock keeping - 5 (4.2%) and 6 (5.1%) responded that activities done which depends on the market were entrepreneurship and small business and 8 (6.8%) responded that activities done which depends on the market were all farming, small business and livestock keeping activities.

**Table 4.16 Nyandira village activities which were influenced by existence of the agricultural market.**

	<b>Frequency</b>	<b>Percentage (%)</b>
Households involved in farming only	99	83.9
Households involved in Livestock keeping only	5	4.2
Households involved in business only	6	5.1
Households involved in both farming, livestock keeping and Business)	8	6.8
Total	118	100

**Source:** Survey Data

#### **4.3.8 Impact of the market to the local economy**

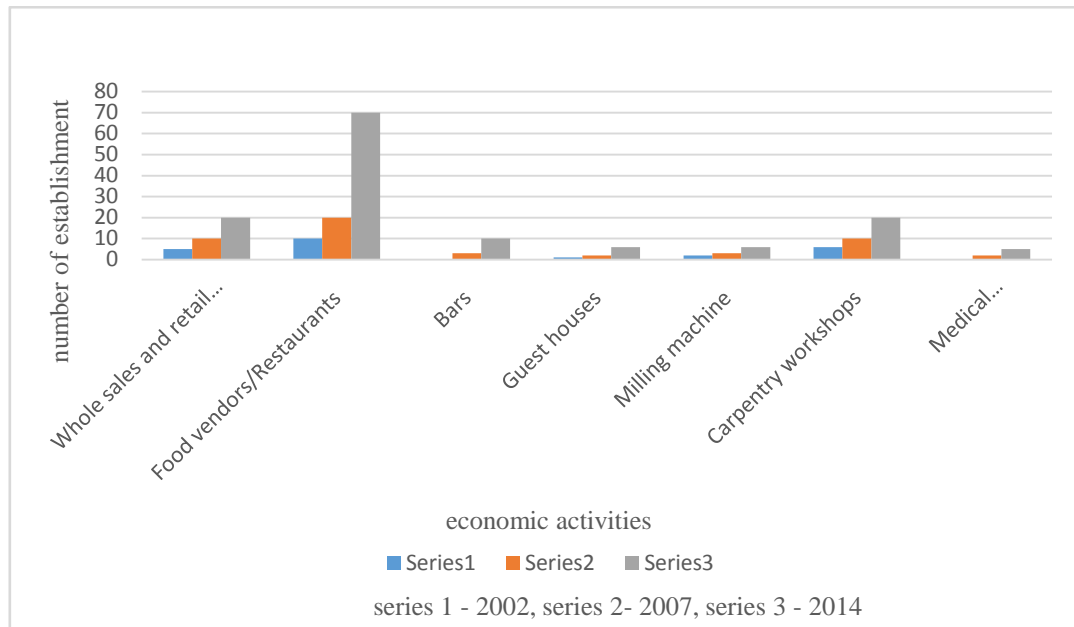
In assessing the role of rural markets to rural economic development, the study analyzed the contribution of the agricultural market to the local economy and local government councils. This was achieved through interview of key informants in order to have essential information which could not be captured in the questionnaire and to observe trends of crop amounts arriving and or/leaving the markets for different destinations implicitly indicating amount of cash flowing to farm households..

Data indicated that the cash income received from sales of products at the Nyandira market tremendously increased money circulation in the areas around the market. As a result the areas attracted people from various places in the country who settled in these places. This has been more so at Nyandira which has quite a number of shops, guest houses, modern residential houses, cars, and other social services.

Apart from the Nyandira market of vegetables as the most traded commodities, trade and commercial activities carried out in Nyandira village included whole sale and retail shops, hardware, Timber sellers, machines spare parts, milling machines, bars, guest houses, medical stores and stationeries services. Most of the merchandises sold in Nyandira town were purchased from Dar es Salaam and Morogoro.

The study also determined whether existence of the market increased economic activities in the area. All respondents 120 (100%) indicated that the presence of the market increased economic activities in Nyandira village. Records from Nyandira village council and estimates with stakeholders established that the number of business units in Nyandira have increased about 6 times from 24 establishments in 2002 to 137 in 2014 (Figure 4.5). It could be noted that the largest increase was for food vendors and restaurant shops, followed by wholesale and retail shops. Increase in the number food vendors and restaurants is explained by increase in persons who need catering services such as traders, farmers, brokers as a result of the market activities while the increase in number of wholesale and retail shops is commensurate to the Keynesian psychological law that states that “the higher the income the higher the expenditure”.

**Figure 4.5: Number of business establishments in Nyandira village between 2002 and 2014 as influenced by the establishment of the agricultural market**



**Source:** Nyandira Market Office

An assessment was done to determine whether existence of the Nyandira market had impact to the population increases in the area. All 120 respondents (100%) indicated that the presence of the market had an impact to population increase in the area.

Discussion with key informants as well as personal observations indicated that the overall living standard of the people around the market had increased. There was an increased number of modern houses built of burnt bricks and corrugated iron sheets, and increased investment in commercial buildings. At Nyandira area for example, before the market was constructed residents used to fix grasses instead of iron sheets on the roof. Today, such houses are rare and have been replaced with modern houses.

Interview with stakeholders revealed the following changes before and after the market was constructed (Table 4.17).

**Table 4.17: Changes in socioeconomic variables before and after market the construction in Nyandira village.**

<b>Socioeconomic parameter</b>	<b>Before the market</b>	<b>After the market establishment</b>
Population	5,000	8845
Number of households	849	1,502
Shops	5	20
Food vendors	10	70
Cargo porters	5	42
Brokers	4	40
Bars	0	10
Guest houses	1	6
Modern residential houses	50	1,200
Milling machine	2	6
Carpentry workshops	6	20
Car ownership	3	6
Traffic density per day	8	17
Medical stores/Pharmacies	0	7

**Source:**Nyandira Market office

#### **4.3.9 Individuals benefited from existence of the market**

The study made detailed assessment of the respondents to establish how they have benefited or been affected by the market. Out of 118 respondents, 111 (94.1%) responded that personally they benefited by the existence of the agricultural market and 7 (5.9%) responded that personally they were not benefiting the existence of the market. Those who were personally benefiting from the existence of the Nyandira market indicated that it was now easy sell there produce than before the existence of the market. In addition, it was easy for them to get employed by the market. Those who responded that they were not benefiting by the existence of the Nyandira market related the issue with lack of employment opportunity at the market.

#### **4.3.10 Contribution of the market to Local Councils Budgets**

According to the write-up of the project that constructed the Nyandira market, the market belongs to the Local Government Authorities (LGA) in which they are built. Thus, the Nyandira and other similar markets are income sources of the LGA. The prevailing formula distributes revenue generated by the market between the Market

Board and the LGA is on fixed amount, the contribution depending on the levies collected at the market.

Contribution to LGA budgets by Nyandira market was also noted to be on the rise. For example, between 2004 and 2008, Nyandira contributed TSh 26,000 per month. In 2009 the contribution was raised to TSh. 300,000 per month before it increased to TSh. 500,000 per month in 2010, in 2013 contribution raised to TShs 800,000 per month. During the period of this study, plans were under way to increase the contribution to to the local government to TSh. 2,000,000 per month.

#### **4.4 Basic services and infrastructure in rural areas (e.g. Road, water, electricity and health)**

The study determined the extent to which there was improved access to basic services and infrastructure at Nyandira village such as adequate road, water, electricity and health, education.

During the data collection period two methods were used, first through questionnaires filled by farmers to capture their perception about how basic services and infrastructure in rural areas have been improved following construction of the Nyandira market, secondly, through interviews of key informants in order to have essential information which could not be captured in the questionnaires.

##### **4.4.1 Access to electricity and road networks**

The study made detailed assessment of the respondents to establish how there is improved access to electricity and road networks as a results of rural market. Out of 117 respondents, 57 (48.72%) responded that there is highly improved access to electricity and road networks, 35 (29.91%) responded that there is medium improved access to electricity and road networks, 22 (18.80%) respondents little improved access to electricity and roads networks and 3 (2.56%) respondents no improved access to electricity and roads networks (table 4.18). Those who responded highly

and medium improvements explained by existence of electricity and roads which were not existed before market construction. Those who responded little and no improvements explained poor and un-accessible road networks, no tarmac road, the existed road is eroded during the rainy season and caused road to be un-accessible.

**Table 4.18: Response on accessibility of electricity and road networks**

	Frequency	Percentage
Highly improved access to electricity and roads networks	57	48.72
Medium improved access to electricity and roads networks	35	29.91
Little improved access to electricity and roads networks	22	18.80
No improved access to electricity and roads networks	3	2.56
Total	117	100

**Source:** Survey Data

With interview with local government officers and other respondents we noticed that there are improvements in access to electricity and road networks. Due to the improvement of the roads network, especially the main road the Track traffic increased from 8 per day in 2010 to 17 per day in 2014. Such an increase in the number of trucks going to Nyandira village was caused by an increase in trading activities as most of the traders are coming from Morogoro and Dar es Salaam. Furthermore, the residents of Nyandira had access to electricity supplied by TANESCO and clean and safe water. All these notable changes were influenced by the establishment of the Nyandira agricultural market.

#### **4.4.2 Access to health services**

A study has been done through questionnaire and interview to key informants assessing the improved access to health services. The study made detailed assessment of the respondents to establish whether there is improved access to health services. Out of 105 respondents, 70 (66.67%) responded that there is highly improved access to health services, 32 (30.48%) responded that there is medium improved access to health services and 3 (2.86%) respondents little improved access to health services and 5 (4.27%) (Table 4.19). Those who responded highly

improved access to basic services explained by availability of increased number of medical stores, access to medicine and availability of dispensary while those responded medium and little improved access to health services explained that there is no adequate infrastructure to support delivery of health services especially to pregnant women.

**Table 4.19: Response on accessibility of electricity and road networks**

	Frequency	Percentage (%)
Highly improved access to health services	70	66.67
Medium improved access to health services	32	30.48
Little improved access to health services	3	2.86
Total	105	100

**Source:** Survey Data

Interview results from key informants indicated that there was increased of number of medical stores and pharmacies from zero before established of the Nyandira market to seven (7) such facilities. A dispensary was also established in the area following establishment of the Nyandira agricultural market. This reveals that after the construction of the market and increase of population in the area engaged in agricultural business which required the establishment of medical facilities. The road networks were also improved following completion of the Nyandira agricultural market. Such developments have allowed traders to access the Nyandira market throughout the year, including during the rainy season

With rapidly growing population at the Nyandira market, social changes, both positive and negative, are inevitable. This study examined this aspect in terms of spread of HIV/AIDS, emergence of most vulnerable children (MVC), enrollment rate, and increased access to social amenities.

Discussion with the health workers at LangaliMgeta, revealed that HIV/AIDS infections have increased substantially since the Nyandira market was established. Statistics available indicate that before the market was constructed there were only 8

HIV/AIDS cases that were registered at the health center. At the time of conducting the study, 63 people were reported to have HIV/AIDS of which 48 were already receiving ARV drugs; 19 out of these were from Nyandira. However, it was noted that the number of people infected with HIV/AIDS might be higher than those reported because usually the majority of patients prefer to seek medical services outside their domicile areas in order to avoid stigma. It was also asserted that cases of other sexually transmitted diseases (STDs) have increased, although data were not availed.

A number of other negative social impacts caused by the existence of the agricultural market at Nyandira included:

- Increased rate of marriage divorces: It was reported that cases of single mothers have increased in the areas visited. This could be associated with (i) marriage divorces and (ii) traders from far away who impregnate women and abandon them. However, respondents observed that street and most vulnerable children (MVC) was not yet become a notable problem in the area.
- Robbery also emerged as a problem especially during peak market season when there was a conglomeration of traders who come to buy commodities. However, since a police jamii established in 2012 at Nyandira village the incidences of robbery dropped significantly. On the other hand, pick-pocketing, theft and swindling were reported during off season when youth had virtually nothing to do.
- Social services such as water, health and education services were constrained due to increased population pressure brought about by the market activities.

#### **4.4.3 Access to water services**

An assessment for access to water services has done under questionnaire method. The study made detailed assessment of the respondents to establish whether there is improved access to water services. Out of 120 respondents, 60 (50%) responded that there is highly improved access to water services, 35 (29.17%) responded that there

is medium improved access to water services and 25 (20.83%) respondents little improved access to water services and 5 (4.27%) (Table 4.20). Those who responded highly and medium improvements explained by availability of clean and treated water while those responded little improved access to water services explained that there is no adequate infrastructure to support delivery of water to home stay as compared to town.

**Table 4.20: Response on accessibility of electricity and road networks**

	Frequency	Percentage (%)
Highly improved access to water services	60	50
Medium improved access to water services	35	29.17
Little improved access to water services	25	20.83
Total	120	100

**Source:**Survey Data

## **CHAPTER FIVE**

### **DISCUSSION OF FINDINGS**

This chapter presents the discussion of the findings obtained during the study. The discussion focuses on the role of rural market on improving the farmer's income, infrastructure and creation of employment opportunities.

#### **5.1 The level of house hold income at Nyandira**

The study was conducted to assess the level of household income improvement as a result of the existence of the rural agricultural market. An analysis was done to assess the level of household income. Income for households in the villages depends on many factors, such as quantity crops produced and sold and selling price.

Beside on the findings of this study, the respondents whose age range from 36 – 55 years are highly involved in market activities (49.2%) followed by 18 – 35 years age (41.7%) whereas male are highly involved in marketing activities (60.8%) followed by female (39.2%) at Nyandira village, whilst 91.7% of respondents who involved in marketing activities have primary education, 5.8% secondary and 2.5% informal education, most of the crop cultivates is vegetable only (52.5%) and 47.5% mix vegetables and cereals for food consumption . This indicates that the level and distribution of income earned for households depends on the level of education, crop cultivated sex, and age.

The level of household income in Nyandira village generally improved year after year. About 61.7% of the farmers had daily income of \$1 and above, this is an improvement as compared to before market established majority were leaving under \$1 per day per person. The income trend for the past five years increased, about 53.8% of the farmers indicated that their income increased by two times. During the discussion with households they mentioned that an increase of income was caused by the presence of market in the area as it was easy to sell their produce, increase their land for cultivation. However it was noted that about 46.2% of the respondents

reported decrease of their income due to factors such as health problems hence they were not able to cultivate their farms, decreased in productivity caused by soil erosion and increase in price of agricultural inputs such as fertilizers and seeds.

The study has revealed that there were notable changes in resource allocation at farm level with consequences of increase in crop output for the areas influenced by the Nyandira agricultural market. There was consensus among the respondents that construction of the market has stimulated production, the number of tracks leaving the area full of vegetables has increased significantly following the marginal increase in land expansion of area under cultivation and intensification because the topography of the area (hills and mountains) does not favor extensive land expansion. There is therefore, an urgent need for investing in rural agricultural markets in Tanzania in order to stimulate rural agricultural and economic development.

The study has also revealed that the technology used by farmers in Nyandira village was mainly the hand hoe because the topography which restricted mechanization. The study has also indicated that fertilizers were accessible by all farmers in Nyandira village, however affordability depended on the purchasing power of the farmers. The price of fertilizers ranged between TShs 50,000 to TShs 100,000 per fifty kilograms. The study indicated that about 53.9% of the farmers responded that they afforded purchasing fertilizers for crop production.

Accessibility of food and food security is one of the indicators of improved productivity which also results into increased income of households. The affordability to purchase food depends on the level of income, if food is accessible and affordable that is a good indicator of economic development. This study has found out that there was enough availability of food in Nyandira village. And 90.7% of the respondents indicated that they produced their own food while only 9.3% purchased food for their families. The study also indicated that 67.5% of the

respondents had food shortage in the year between 1 – 6 months purchased food in the market for their families.

The incomes of the majority of households depended on the market price and the volume of their products. The majority of respondents indicated that existence of the agricultural market in Nyandira village played a major role in improving price of agricultural produce and the volume of sales and hence improving their income. Availability of the market facilities also allowed them to sell their produce immediately after harvest and at good market prices. About 98.3% of the respondents sold their produce at Nyandira market.. Small holder farmers in the study area responded that the price their produce offered by the market was good; this was supported by 51% of the respondents.

The increase in marketed volume of produce dependended on the increased number of traders at Nyandira market. The study indicated that traders at the Nyandira rural market increased from 5,975 in 2010 to 6,195 in 2014, this is an increase of 4%. The increase of traders for the past five years is an indicator of increase in trading activities (buying and selling of goods and services) in the market, hence increased volume of goods supplied in the market, this automatically increased income of small scale farmers in the village.

Regarding the role of market on increased producer prices and farm income, the study indicated that 51.7% of the respondents explained that the level of contribution of the Nyandira agricultural market to prices of agricultural produce increased. However, 40.7% of the respondents indicated that there was a gegative contribution of market to prices of agricultural produce due to the reasons that brokers interfered with prices and other market information making it difficult for the farmers to get the correct market information. The study also indicated that the bargaining power of the producer (farmers) in the market has decreased due to interference of brokers who add some commissioners that are charged to farmers. Based on lack of storage

capacities and facilities, farmers were forced automatically to sale their produce even if the price was not very attractive.

Generally, the study revealed that producer prices for agricultural commodities sold through the Nyandira agricultural market increased as a result of increased competition among traders and the use of standard weighing scales by farmers. Before the market was constructed the trading system was based on unstandardized units such as bags and tins. Therefore, the market has increased transparency in price determination.

However, the fact that brokers emerged naturally at Nyandira market indicates that there is a special function that they are performing. That's why any decision to eliminate them must be taken cautiously. This is because elimination of brokers would not eliminate the functions they are performing. If they are eliminated, someone else must perform those functions. This may cause with serious loss of efficiency in the whole marketing system.

Critical examination of market information revealed that the reason why brokers persisted at Nyandira market market is because they have more information than farmers and buyers. In a way farmers and buyers depend on them. Removing local brokers means that farmers and traders will have direct engagement. Although this sounds like a brilliant idea, but farmers and traders are too numerous to operate efficiently. The broker knows the buyers and the farmers. He runs around to collect information from different farmers and buyers. In some cases local brokers are trusted by farmers and buyers who contact them by phone and send money to them asking them to assemble and send the consignment to the owner. Not only that, but also local brokers have very strong convincing power. Thus, if removed from Nyandira market unceremoniously markeing channel may collapse. The most important thing is that local brokers should be controlled by the market management so that they receive fair payment for their produce.

## **5.2 Other improved social and economic factors of development at household level at Nyandira.**

Study carried out to assess improvement of other social and economic factors of development at household's level at Nyandira based on the existence of rural market facilities, the factors considered included adequate shelter, education, access to agricultural inputs, access to finance, improved employment opportunities and new created employment, contribution of the market to the livelihood of the community and finally benefit obtained by the village through existence of market.

An analysis was done in assessing improved access to adequate shelter 85.84% of the households responded either their shelter have been improved highly or medium 39.82% responded highly while 46.02% responded medium improved access to shelter. It was explained that these improvement are associated by increase in income level and accumulated of savings aided them construction of modern houses, increase in commercial buildings such as guests and bar. Discussion with stakeholders as well as physical observations indicates that an overall living standard of the people around the market has increased. There is increased number of modern houses built of burnt brick and corrugated iron sheets, and increased investment in commercial buildings. At Nyandira the old houses are now replaced with modern buildings. Modern buildings were seen emerging and replacing old and dilapidated ones. However 14.16 households responded that there is little or no improvement in shelter of which 11.50% responded little and 2.65 no improved access to shelter this was caused by low income, consumption being higher than their income hence no savings, increase in dependency and hence not being able to improve their shelter.

An analysis done assessing access to education indicated that the trend of attendance at Nyandira primary school declined over the years, especially for the higher classes after the establishment of the agricultural market. The decline noted by 13.04% in 2008 attendance was 820 pupils this dropped to 713 in 2012. The number of absentees decreases from 140 pupils in 2010 to 137 pupils in 2014 this improvement

was caused by provision of education to households on the importance of attendance to school, decrease in number of pupils doing business in the market.

In assessing access to agricultural inputs and level of technology used by farmers, the study revealed that about 100% of farmers at Nyandira used hand hoe, this was caused by the geographical location of an area which was mountainous which does not favor the use of other technologies like tractors. 97.5% of the farmers used fertilizers while 2.5% were not using fertilizers in farming. 1.7% used organic fertilizers only, 0.9% used inorganic fertilizers only and 97.4% used both organic and inorganic fertilizers. This study noted that 100% of respondents accessed fertilizers easily but 53.9% of the respondents are affordable while 46.1% responded that the prices were not affordable in comparison with their annual income. Generally the result reveals that most of the farmers who use fertilizers in farming has increased in production.

On access to financial services by farmers at Nyandira and its role in improving the income level of the households, the study indicated that financial services (loans including storage loan, credit, savings, money transfer) can play an important role in promoting trade at Nyandira agricultural market. Based on the increased money circulation in the area, financial services have emerged to minimize risks of carrying large sums of money. This is because market transactions involve a lot of money that calls for existence of banking services in the area. Without bank services, buyers have to carry millions of shillings sometimes in their socks, pockets and brassieres – this is not safe as cases of robbery have been reported.

At the moment there is no commercial bank in Nyandira, but there are electronic money transfers and storage using mobile phones (M-Pesa, TigoPesa, and Airtel Money). In Nyandira there were no SACCOS during the study period, only VICOBA were available.

In analyzing the employment opportunities, the researcher considered activities based on the existence of the market, employment created by the market, contribution of market to the livelihood of the community, and finally benefit obtained by the villagers through existence of market.

Most of the households in the areas were employed in farming, 83.9% respondents responded that the activities which depended on the market was farming and livestock keeping. Others employment created by the market included various entrepreneurial activities. About 95.7% of the respondents indicated that existence of market has contributed to the employment opportunities in Nyandira village. Such findings were supported by emergence of food vendors, shops, job opportunities such as market watchmen, cashier, accountant, market manager, board of directors and revenue collectors.

Apart from the role of rural market in employment opportunities, the study determined the impact of the market to local economy and its contribution to local government budget. Cash incomes received from sale of produce at Nyandira market have tremendously increased money circulation in the areas around the market. As a result the areas have attracted people from various places in the country who have now settled in the village. This has been more so at Nyandira which has quite a number of shops, guest houses, modern residential houses, cars, and other social services.

Apart from the Nyandira market of vegetables as the most traded commodities, trade and commercial activities carried out in Nyandira village included whole sale and retail shops, hardware, timber sellers, machines spare parts, milling machines, bars, guest houses, medical stores and stationeries. Most of the merchandises sold at Nyandira town are imported in the area from Dar es Salaam and Morogoro.

Records from Nyandira village council and estimates with interviews establish that the number of business units at Nyandira has increased about 6 times from 24

establishments in 2002 to 137 in 2014. Increase in the number of food vendors and restaurants is explained by an increase in persons who needed catering services such as traders, farmers, brokers as a result of the increased market activities; while the increase in number of wholesale and retail shops is commensurate to the Keynesian psychological law that states that “the higher the income the higher the expenditure”. The discussion with key informants as well as physical observations indicates that an overall living standard of the people around the market has increased. There was an increased number of modern houses built of burnt bricks and corrugated iron sheets, and increased investment in commercial buildings. At Nyandira area for example, before the market was constructed residents used grass houses today, such houses are have decreased.

The market also contributed to the LGA budgets, the analysis indicated that the contribution was low at the beginning and rised with time. For example, between 2004 and 2008, Nyandira contributed to the LGA TSh 26,000 per month. In 2009 the contribution was raised to TSh. 300,000 per month before it increased to TSh. 500,000 and Tshs 800,000 in 2010 and 2013, respectively.

### **5.3 Basic services and infrastructure in rural areas**

After accessing the various sources of improving farmers’ income the researcher was interested in assessing the extent to which there is improved access to basic services and infrastructure in rural areas. The analysis was done to determine the extent of improving these basic services and noted that there was an increase in the number of medical stores and pharmacies from zero before the establishment of the market to seven (7) during the time of this study. This reveals that after the construction of the Nyandira market it caused an increase in the population of business men in the area which was followed by eruption of diseases which need cure and treatment, hence the increased in number of pharmacies and medical stores.

The road networks to Nyandira improved, as was reflected by an increase in tracks to Nyandira, from 8 per day in 2010 to 17 per day in 2014. Furthermore the residents of Nyandira had access of electricity (energy) recently, which is supplied by

TANESCO and clean and safe water. All these notable changes resulted from establishing the Nyandira agricultural Market. The number of schools increased from one, before the market existence, to four after existence of market. However, activities of the market caused pupils to abscond school so that they can assist their parents to carry agricultural produce to the market and to cut grass used for packaging by traders. Generally the trend of attendance at Nyandira primary school was noted to decline over the years, especially for higher classes. In 2010, the number of absentees was 30 pupils at Nyandira primary school; however, based on the existence of the market, the number of absenteeism increased to 54 in 2014. With rapidly growth of population at Nyandira market, social changes, both positive and negative, are inevitable. The discussion with the health workers at LangaliMgeta, revealed that HIV/AIDS infections have increased substantially since the market was established. Statistics available indicate that before the market was constructed, there were only 8 HIV/AIDS cases that were registered at the health centre. As of now, 63 people are registered, out of which 48 are already receiving ARV drugs; 19 out of these are from Nyandira village. However, it was noted that the number of people infected with HIV/AIDS might be higher than reported because usually the majority of patients prefer to seek medical services outside their domicile areas in order to avoid stigma. It was also asserted that cases of other sexually transmitted diseases (STDs) have increased. There is therefore, a need to increase intervention measures against HIV/AIDS.

Other negative social impacts reported at the markets were reported that cases of single mothers have increased in the areas visited. This could be associated with (i) marriage breakdown and (ii) traders from far away who impregnate women and abandon them. However, respondents observed that street and most vulnerable children (MVC) have not yet become a notable problem, Robbery is a problem especially during peak season when there is a conglomeration of traders who come to buy commodities, Social services such as water, health and education services have been constrained due to increased population pressure. There is therefore, a need for expanding such services.

## CHAPTER SIX

### SUMMARY, CONCLUSION AND POLICY IMPLICATIONS

#### 6.0 Conclusion

Rural markets as defined in theoretical literature review refers to a place where any marketing activity in which one dominant participant is from a rural area. This implies that rural market consists of marketing of inputs as well as outputs. For a rural market to play a role in economic development an efficient marketing system is required, which can provide better prices to producers and improve the availability of competitively priced produce to consumers. These improvements resulted into improved income of the rural residence, creation of employment and improving infrastructure and access to basic services. An efficiency marketing system helps to overcome poor roads, a lack of knowledge about marketing among farmers, inadequate quantity of products to attract sufficient traders.

Formal markets like that constructed by Mviwata in Nyandira village with well management system in rural areas, play an important role in improving agricultural marketing. They provide a location at which farmers can meet with traders, increase retail competition by providing a convenient place where farmers can meet with consumers, improve hygiene, if existing marketing activities are carried out in an insanitary manner, reduce post-harvest losses by providing protection for produce from direct sunlight, rain, etc, make marketing a more pleasurable activity; and provide a focal point for rural activities. Therefore, the government should consider establishing rural agricultural market other areas in order improve rural marketing of agricultural produce and increase the income of rural people.

According to findings from this study, results indicated that rural markets play a great role to economic development in rural areas. This is because they provide room for better prices, increase sales volume, increase production hence improving income of the farmers, create employment to rural residents, contribute to access of basic

services and infrastructure such as schools, road networks, sanitation, and energy and finally, contribute to budgets of the local government authorities.

The study further indicated that, apart from the role of the rural agricultural markets in improving income level of households, creating employment opportunities, they also contribute to access to basic services and infrastructure local government economy and hence rural economic development. , However, there are still a number of challenges faced by farmers despite the existence of the rural agricultural market, including low prices of the agricultural products, access to price information and limited opportunity to expanding the area of cultivation.

Generally findings indicate that farmers who access rural markets and have bargain power, produced quality products, access to technology and fertilizers, access to financial services and access to storage facilities sell their crops at an increased price, increase their production and sales volumes and hence increase their income. Additionally, in areas with formal market, employment is created and there is improved and increased basic services like access to energy and electricity, water, sanitation and health services.

## **6.1 Recommendation**

Since the markets play significant role to the economic development in the rural areas through improving the level of income to the households, contributing to access of basic services and infrastructure, creating employment opportunities and contributing to the local government economy, there is a need for Increasing efforts to construct rural agricultural markets, in order to stimulate rural development through creation of marketing channels, employment and other essential social services.

Together with the creation of rural agricultural markets, improvement should also be made to the road networks to increase accessibility to rural markets and reduce transportation costs, thus increase the profit margin of smallholder farmers.

Tanzanian farmers will benefit more on rural market if an effective and efficiency market system exists, including price information system. Timely accessibility of reliable agricultural marketing information is one of the factors that will contribute to increasing farmers' income in Tanzania due to increasing transparency and negotiation capacity and hence accessing agricultural inputs at lower prices and selling their crops at higher prices.

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## APPENDICES

### APPENDIX I

#### Questionnaire for the role of rural markets to rural economic development:

#### MVIWATA FARMER'S AND FARMERS LEADERS

#### INTRODUCTION

This questionnaire is designed so as to get information on the role of rural market to rural economic development. The questionnaire has been developed as part of the study required in order to award Master Degree at Mzumbe University. The information collected will also help advice the government and private organizations that are engaged in construction of market in the rural area or improving already existed market.

I kindly request you to respond to this questionnaire as accurately as you can so as to get correct information. Your answers will remain for the use of the researcher only. It is my hope that my request will meet your favorable considerations. Please (tick or put an x and write as appropriate the responses in a space provided).

#### A. PERSONAL PROFILE

1. Name \_\_\_\_\_ of \_\_\_\_\_ a \_\_\_\_\_ respondent:  
.....
2. Sex: Male ( 1 ) Female ( 2 )
3. Age Group [tick]:
  - a) Below 18 .....( 1 )
  - b) Between 18 and 35 ..... ( 2 )
  - c) Between 36 and 55 ..... ( 3 )
  - d) Above 55 ..... ( 4 ).
4. Level of education
  - a) Informal ..... ( 1 )
  - b) Primary school ..... ( 2 )

- c) Secondary School ..... ( 3 )
- d) College ..... ( 4 )

**B. INFORMATION RELATING TO INCOME GENERATING ACTIVITIES THAT RELATED TO THE MARKET**

5. Please mention your income generating activities

- a) ..... ( 1 )
- b) ..... ( 2 )
- c) ..... ( 3 )
- d) ..... ( 4 )

6. If your income generating activities is farming, how many acres are cultivating per year

- a) Between 1 and 4 ..... ( 1 )
- b) Between 5 and 10 ..... ( 2 )
- c) Above 10 ..... ( 3 )

7. Do you own land used in farming? Yes ( 1 ), No ( 1 )

8. If No, please explain

.....

.....

.....

.....

9. What is the source of ownership of land used for farming

- a) Inherit ..... ( 1 )
- b) Purchase ..... ( 2 )
- c) Rent ..... ( 3 )

10. What do you explain the size of areas used for farming over the past five years?

It increased ( 1 ) it decreased ( 2 )

11. If decreased for how much

- a) Two times ..... ( 1 )
- b) Three times ..... ( 2 )
- c) More than three times ..... ( 3 )

12. What do you think are the reason for decreasing in your area of cultivation

- a) ..... ( 1 )
- b) ..... ( 2 )
- c) ..... ( 3 )
- d) ..... ( 4 )

13. What types of crop are you cultivating? (mention the major four crops only)

- a) ..... ( 1 )
- b) ..... ( 2 )
- c) ..... ( 3 )
- d) ..... ( 4 )

14. Do you use fertilizer in farming? Yes ( 1 ), No ( 2 )

15. If yes, please mention fertilizers which you use in farming

- a) .....
- b) .....
- c) .....

16. What is the price of 50kg of fertilizer? .....

17. Do you afford the price of fertilizer? Yes ( 1 ), No ( 2 )

18. If No, please explain

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

19. What technology do you use in cultivating the farm? (please tick appropriate box)

- a) Hand hoe ..... ( 1 )
- b) Plough ..... ( 2 )
- c) Tractor ..... ( 3 )

**C. INFORMATION RELATING TO STATUS OF INCOME**

20. What is your annual income? Please indicate here: .....

21. How is your annual income trend over the past five years? Increased ( 1 )  
decreased ( 2 )

22. If you're annual income has increased, by how much?

- a) Two times ..... ( 1 )
- b) Three times ..... ( 2 )
- c) More than three times ..... ( 3 )

23. If your annual income has decreased, please give four major reasons for the decrease

- a) ..... ( 1 )
- b) ..... ( 2 )
- c) ..... ( 3 )
- d) ..... ( 4 )

24. Where do you get access to food used in your family

- d) Produced ..... ( 1 )
- e) Purchased ..... ( 2 )
- f) Food aid ..... ( 3 )

25. Do you get food shortage in a year? Yes ( 1 ), No ( 2 )

26. If Yes, what is your average food shortage per year? ..... months

27. What is your strategy in overcoming food shortage in the family

- a) Food aid ..... ( 1 )
- b) Purchased ..... ( 2 )
- c) Barter exchange ..... ( 3 )

28. If you received food aid, where is it come from?  
.....

**D. INFORMATION RELATING TO CHANGES OF PRICE AND SALES**

29. Do you sell your product immediately after harvest? Yes ( 1 ), No ( 2 )

30. Where do you sale your product?

- a) Home ..... ( 1 )
- b) Market ..... ( 2 )
- c) Along the way (road) ..... ( 3 )
- d) Others, (specify) ..... ( 4 )

31. If you sale at the market, do you sale at favorable price? Yes ( 1 ), No ( 2 )

32. How do you explain the contribution of market to the price of agricultural produce

- a) Price has increased ..... ( 1 )
- b) Price has decreased ..... ( 2 )
- c) Price remained constant ..... ( 3 )

33. Is your bargaining power with traders increased? Yes ( 1 ), No ( 2 )

34. If No, please explained

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

35. Is it easy to sale agricultural produce recently than before market established?  
Yes ( 1 ), No ( 2 )

36. Is the existence of market contributed to the number of traders in the market areas? Yes ( 1 ), No ( 2 )

37. Is the existence of market contribute to increase in other economic activities in the market areas? Yes ( 1 ), No ( 2 )

**E. INFORMATION RELATING TO CREATION OF EMPLOYMENT OPPORTUNITIES IN THE AREA**

38. Please tick activities done depending on the market

- a) Agriculture (farming & livestock keeping) ..... ( 1 )
- b) Business ..... ( 2 )
- c) Others, (please specify)..... ( 3 )

39. Is the existence of market in the area contributed to employment opportunities in the areas? Yes ( 1 ), No ( 2 )

40. Please lists four major employment opportunities created by the market

- a) ..... ( 1 )
- b) ..... ( 2 )
- c) ..... ( 3 )
- d) ..... ( 4 )

41. Are individually benefited by the market? Yes ( 1 ), No ( 2 )

42. If yes, please explain how?

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

43. If No, please explain?

.....  
.....  
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## APPENDIX II

### Discussion Guide for Key Informants:

#### LEADERS AT VILLAGE LEVELS, MARKET MANAGEMENT & LOCAL GOVERNMENT

Comparing the situation before and after market construction, what changes have been observed (with core evidences): on improving household's income, access to basic services and infrastructures and employment opportunities created?

##### A: improvement of household's income

What do you consider to be overall economic changes in the area that are associated with market construction:

- a) increased population
- b) numbers of shops
- c) petty trading/food vending
- d) the number of porters and brokers
- e) number and quality of new commercial buildings
- f) number and quality of new residential buildings
- g) availability of banking services
- h) milling machines
- i) saw mills and carpentry
- j) guest houses
- k) ownership of personal cars and transport trucks
- l) car density in the area (number of cars coming to the area per day)
- m) number pharmacies and private dispensaries
- n) Pubs/bars
- o) Increased prices of goods and services

**B: access to basic services and infrastructure (such as health and water, road networks, education, and energy and electricity)**

What do you consider to be overall changes in the area that are associated with market construction?

- a) Improved access to road networks
- b) Improved access to clear and safe water and sanitation
- c) Improved access to energy and electricity
- d) Has incidence of HIV/AIDS epidemics increased as a result of market construction?
- e) Has other STDs increased?
- f) Have most vulnerable children (MVC) increased?
- g) Has school attendance/enrollment changed?
- h) Has the number of schools increased?
- i) Has the number of health centers increased?
- j) Has the quality of health services increased?
- k) Have social service deteriorated as a result of population pressure?

**C: assessment of social economic development of farmers at Nyandira based on existence of the rural market**

What do you consider to be overall changes in the area that are associated with market construction?

- a) Number of people employed by market management
- b) Number of people employed in various economic activities in the area (such as wholesale and retail shops, food vendors and restaurants, mills machines, farming, livestock keeping, bars, guest houses, carpenters etc.
- c) Contribution of the market to local council's budget as own revenue sources (through market fees, levies and taxes) as compared to other sources
- d) What would you suggest to be done to support the market development process – e.g. audit, leadership mentoring & evaluation, staff coaching, business development, infrastructure maintenance, etc.?