

**ROLES OF WOMEN'S NON- FARM INCOME GENERATING ACTIVITIES TO
HOUSEHOLD FOOD SECURITY: CASE OF BAGAMOYO DISTRICT**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
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ABSTRACT

This study was undertaken to assess the roles of women's non-farm income generating activities with respect to food security in the households in rural villages. The study was conducted in Bagamoyo District, Coast Region. The overall objective was to examine the contribution of women's non-farm income generating activities to household food security. Specifically, the study intended to identify types of non-farm income generating activities undertaken by women, to determine the characteristics of non-farm IGAs, to assess food security status of households using dietary energy consumed as an indicator and lastly to determine the extent to which IGAs income is used for household food security. Primary data collection involved questionnaires, checklist, focus group discussion and discussions with key informants, documentary search and field observation while secondary data were obtained from the libraries, documentation centers in Bagamoyo as well as at SUA, Morogoro. Random sampling procedure was employed in which four villages were involved. A sample size of 120 women was interviewed using structured questionnaires with open and close-ended questions. The findings show that income generating activities carried out by women are small scale activities such as food vending (*mama lishe*), selling buns, vegetables, fried/dried fish, charcoal, local brew, tailoring and hair braiding. In order to determine food security situation of households, the dietary energy consumed per capita per day and per adult equivalent per day was determined. T-test statistical analysis was used to compare income contributed by women on food in the household per month and income from men. Basing on statistical T-test results it was identified that there is a significant difference between mean income contributed by women for food and that contributed by men ($P < 0.05$). Mean income contributed by women was significantly greater than the mean income contributed by men.

DECLARATION

I, Elieda P. J. Ombakah, do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my own original work done within the period of registration and that it has neither been submitted nor being concurrently submitted in any other institution.

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Date

The above declaration is confirmed by:

Prof. S. O. W. M. REUBEN
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Date

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DEDICATION

This work is dedicated to my parents, Mrs. Ruth J. Ombakah and the late Mr. Jeremiah Ombakah for the vital role they played to lay the foundation of my education and for their sacrifices and tireless support. May the Almighty God bless them forever, AMEN.

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LIST OF ABBREVIATIONS

ADB	African Development Bank
AEU	Adult Equivalent units
AAEU	Adjusted Adult Equivalent units
DALDO	Agriculture and Livestock Development Office
DEC	Dietary energy consumed
DED	District Executive Director
DSI	Development Studies Institute
CIDA	Canadian International Development Agency
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
ICRW	International Centre for Research on Women
IFAD	International Food and Agriculture Development
IGAs	Income Generating Activities
ILO	International Labour Organization
LGA	Local Government Authorities
MATI	Ministry of Agriculture Training Institute
MDG	Millennium Development Goals
NBS	National Bureau of Statistics
NFRA	National Food Reserve Agency
NGO	Non-Governmental Organization
NSGRP	National Strategy for Growth and Reduction of Poverty
PRIDE	Promotion of Rural Initiation and Development Enterprises

SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SIDO	Small Industries Development Organization
SPSS	Social Package for Statistical Social Science
SUA	Sokoine University of Agriculture
TGNP	Tanzania Gender Networking Programme
UDEC	University of Dar Es Salaam Entrepreneurs Centre
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
URT	United Republic of Tanzania
USAID	United States Aid for International Development
VAEO	Village Agriculture Extension Officer
VEO	Village Extension Officer
WB	World Bank

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

The importance of food is further declared by its shift from basic needs to basic rights. Again there has been a shift in focus from food security to the right to food whereby the right to food was formulated and asserted simply because hunger and malnutrition still exist in the world (FAO, 2009). Food security for a household means access by all members at all times to enough food for an active, healthy life. A household is considered food secure when its occupants do not live in hunger or fear of starvation (FAO, 2001a).

Worldwide around 925 million people are chronically hungry due to extreme poverty, while up to two billion people lack food security intermittently due to varying degrees of poverty. About 239 million (25.8%) are in Sub-Saharan, 578 million, (62.5%) are in Asia and the Pacific, 53 million (5.7%) are in Latin America and the Caribbean, 37 million (4%) are in Near East and North Africa and 19 million (2%) are in developed countries (FAO, 2010).

Worldwide, and in Africa in particular, women traditionally play a critical role in securing food for their families. In 2009, the UN estimated that 60 percent of the world's chronically hungry people are women and girls, 98% of which live in developing nations, when women have income, substantial evidence indicates that the income is more likely to be spent on food and children's needs. Women play many roles in land use, production, distribution, processing, marketing, accessing, and trading and food availability. They often work as unpaid and self-employed workers on and off farm employees,

entrepreneurs, traders, providers of services and caretakers of children and elderly. However, women have less access than men to agricultural assets, inputs and services. Women farmers represent more than a quarter of the world's population comprising on average 43 percent of the agricultural workforce in developing countries, ranging from 20 percent in Latin America to 50 percent in eastern Asia and Sub-Saharan Africa (FAO, 2009).

Sub-Saharan Africa is set to be the most food insecure region in the world with the state of food security being constantly put at risk by the impacts of adverse climate change and prospects. In sub-Saharan Africa; women grow 80-90 percent of the food (Weisfeld-Adams and Emma, 2008). Approximately 30 million people, or 75 percent of the population, live in rural households; such households make up 80 percent of the country's poor (FAO, 2012). The FAO estimates that women produce over 50 percent of all food grown worldwide. Among poor women of the world, rural women farmers of Africa have one of the lowest social status and they are often expected to support themselves and their families virtually independently (Prakash, 2003).

It is noted that African women work for longer hours than men, on average their workdays may be 50 percent longer. Women carry out essential work such as hoeing, planting, weeding and harvesting with simple tools and little outside assistance (FAO, 2011). Women produce between 60 and 80 per cent of the food in most developing countries and are responsible for half of the world's food production, yet their key role as food producers and providers, and their critical contribution to household food agriculture accounts for 45 percent of Tanzania's GDP, as well as the livelihoods of some 80 percent of the country's

population (FAO, 2012). The government of Tanzania has made recent commitments to agricultural reform and improvement, such as the Agriculture First program. A growing share of the country's budget is being allocated to agriculture, while agribusiness development is being encouraged under such programs as the Southern Agricultural Growth Corridor of Tanzania (SAGCOT).

In order to ensure food security at the household level it is important to realize the critical role women play, and to include them in all development processes towards the achievement of food security. Throughout the world, women are the principal guarantors of nutrition, food safety and quality at household and community levels. They are the ones who often produce, purchase, handle, prepare and serve food to families and community institutions. Therefore the different rights, responsibilities and decision-making abilities of women and men need to be understood to improve food security and nutrition (FAO, 2010).

Economic empowerment is one of the means to empower women. Enhancing women's economic productivity is an important strategy for improving the welfare of people living below the poverty line (Dwarakanath, 1999).

The existence of women in a state of economic, political, social and knowledge disempowerment is known to be a major hindrance to economic development. Not only do women produce and process agricultural products but they are also responsible for much of the trade in these and other goods in many parts of the third world. In many parts of the world, women continue to play an important role as rural information sources and

providers of food to urban areas. This may involve food from the sea as well as from the land (Prakash, 2003). Moreover, FAO (2001b) observed that many families in Africa especially those living in rural areas continue to face problems in obtaining stable access to food, at the region level the numbers of undernourished people continue to increase in sub Saharan Africa. In Tanzania, as one of the developing countries the household has a dual role, as it is both a production and consumption unit thus ensures food security to its members. Indicators of food security include number of meals taken per day, dietary energy consumed per adult equivalent per day and 270 kg (three bags of grain) per adult equivalent per year (FAO, 2006).

1.2 Problem Statement

Women have a central role to play in improving household food security because traditionally, they are producers, providers and income earners for the well being of their family. In rural and urban areas of Tanzania there are an increasing number of women who are creating their own jobs in small scale agriculture, manufacturing, services and petty trades. In most cases the output from such IGAs undertaken by majority of women is small as compared to the output from economic activities undertaken by men. To either this may be due to either scarcity of resources such as credit, land ownership and inheritance, access to education, extension services entrepreneurship skills or access to market and their minimal participation in decision- making process.

Many social and economic studies have shown that, the essential factors for economic resources such as landownership and inheritance, access to credit and market facilities, extension services and entrepreneurship skills are in favor of men than women

(Mukangara and Koda, 1997). However there is lack of adequate information on how women in Bagamoyo district operate their income generating activities (IGAs) and the use of income from such activities on household food security. This study therefore intends to provide some information to fill the existing knowledge gap by examining the types of (IGAs) undertaken by women its operations and eventually the use of the income obtained by women through these activities to household food security.

However the capacity of women to generate income has often been underutilized and even more unrecognized. It was for this reason that this study was conducted to find out the characteristics of people who are engaged in (IGAs) particularly women. The types and characteristics of activities that are carried out and the association of all these to the welfare of the family assessed in terms of dietary energy intake per adult equivalent in the participating households. These unfavorable circumstances have compelled women to engage in off farm income generating activities as alternative sources of income or alternative employment either to supplement or else as the only available source of cash in order to increase their purchasing power as providers.

1.3 Justification for the Study

Income generating activities are important for creating employment, production of locally needed commodities, income generation, growth of farm activities and poverty alleviation (Washa, 2002). The income generated from these operations may be small but it plays a significant role in buying clothing for babies and children, paying for school fees and health care (IFAD, 2006).

Food insecurity is becoming a growing problem in Bagamoyo District .The recent distribution of 1,136 tons of maize to 16 Wards in the year 2010 and then followed by 434 tons of maize to 22 Wards in the year 2013 as a food supplement from the National Food Reserve Agency (NFRA) in the district, is among the most recent evidences of food insufficiency in the district. Alleviating food security requires diversification of income sources with significant integration of women. Often times, African women bear responsibility for generating income in time of food shortages and economic constraints to ensure that household needs are met. However while IGAs are becoming more attractive, they will not necessarily become productive if there are no specific measures for improving their productivity, thus improvement of IGAs mostly done by women may offer opportunity to improve household food security

Many previous studies for example the one done in Dodoma rural district and in Chamwino village aimed at studying only the coping mechanisms/strategies against food insecurity without a linkage to women's accessibility to means of production. It is expected that the findings and the information obtained from this study will draw lessons that can be supportive of efforts aimed at improving conditions of the rural poor especially women who play a big role in household food security.

This study is relevant to the Millennium Development Goals (MDGs) number 1 which state that the UN is to eradicate extreme hunger and poverty or to half it by 2015. The study also corresponds to (NSGRP) cluster II that aims at alleviating poverty by improving quality of life and social well being of the people (URT, 2005a).The MDG I call for halving hunger and poverty by 2015 in relation to 1990 as the base period.

The results of this study will show the current situation of the ongoing off- farm income generating activities among women by generating empirical information on the importance of income generating activities (IGAs) to household food security. The study will be useful to development projects at all levels by organizations, stakeholders, development practitioners, including policy makers as well as other institutions interested in empowering women in non -farm income generating activities.

1.4 General Objective

To examine the Contribution of Women's Non-farm Income Generating Activities to household food security.

1.4.1 Specific objectives

- (i) To identify types of non- farm income generating activities (IGAs) undertaken by women in the study area.
- (ii) To determine the characteristics of non-farm IGAs undertaken by women in the study area.
- (iii) To asses food security status of households using dietary energy consumed as an indicator.
- (vi) To determine the extent to which IGAs income is used for household's food security.

1.4.2 Research questions

- (i) What are the existing non-farm income generating activities done by women in the study area?
- (ii) What are the characteristics of the existing non-farm activities done by women in the study area?

- (iii) What is the status of food security in households under study?
- (iv) How much of the income from IGAs is used for household food security?

1.5 Definition of Some Concepts (as used in this study)

- (i) **Income generating activities refers to** those activities that are characterized by the following elements
 - Activities that tend to be family or household based relying primarily on family labour.
 - Activities which are not permanent and they change according to external factors such as changes within the economy, the weather and therefore the seasons, the availability of capital, labour and equipment.
 - Activities which are characterized by marginal returns which do not allow for savings and systematic expansion of business
 - The activities that may generally not be included in national statistics and other economic indices, unpaid family work particularly amongst women, girls and children
- (ii) **Non-farm income generating activities (non-farm IGAs)** - Type of activity done excluding farming activities like agriculture, gardening and livestock keeping.
- (iii) **Household:** Is the smallest planning and decision making unit for production and consumption in the community.

1.6 The Conceptual Framework

The conceptual framework underlying this study is presented in Figure 1, whereby it shows the set of relationship between dependent and independent variables that will be

used in the study. The framework for this study is based on the assumption that food security is influenced by several factors. The demographic variables of respondents such as age, education and marital status have indirect effect on household food security. Also, the independent variables which are non-farm- income generating activities are found to have direct effect on the dependent variable- Food security.

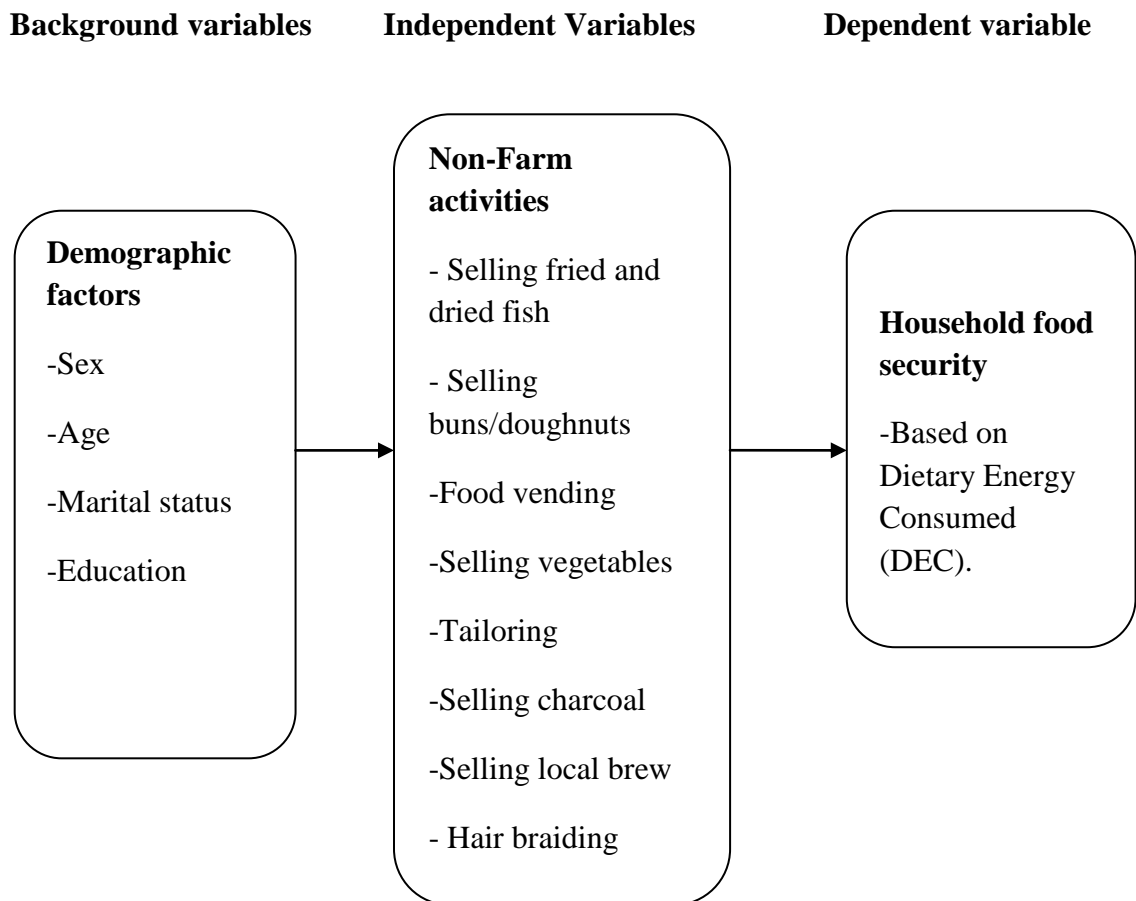


Figure 1: Conceptual Framework

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Importance of Women's' Income Generating Activities (IGAs)

During the 1980s and 1990s most African states (Tanzania included) witnessed a proliferation of women's income generating projects (Meena, 2005). Women became increasingly involved in income generating activities than in agriculture perhaps due to the fact that women especially in the rural areas do not control the income gained from agricultural production, therefore this made them turn to other economic activities to enable them earn independent income in order to fulfill their obligations (Nkurlu, 2000). Similarly, real crop prices dropped compelling peasants and their dependants to diversify income sources by engaging in small ventures within the rural areas or in urban centers. (UDEEC, 2002).

The growing importance of IGAs in Tanzania is evidenced by its increasing size in the national economy (Nkurlu, 2000). Income generating activities are important for creating employment, production of locally needed commodities, income generation, growth of farm activities and poverty alleviation (Washa, 2002). Apart from creating employment, these activities are important in their contribution to food security and raising household income through selling of products (Minde, 1988; UDEEC, 2002). The income generated from these operations may be small, but it plays a significant role in buying clothing for babies and children, paying for school fees and health care (IFAD, 2006). For Example a study conducted in Taiwan in 1995 found that, after holding per capita household income constant, women's income share has a significant and positive effect on households budget

share of staples and education and negative effects on budget shares allocated to alcohol and cigarettes (FAO, 2005).

2.2 Women Participation in Income-Generating Activities

The participation of women in IGAs differs in many ways according to Their participation varies according to age, religion, ethnicity, wealth ,education level, literacy marital status, social status experience and social economic position They differ in terms of motivation to start and develop business (UDEC, 2002). These differences according to Mutagandura (2005) are responsible for a consideration of variation in nature, scope and magnitude of women's' IGAs. Income generating activities undertaken by women may provide more chances for women to become visible workers, perceive and identify themselves as economic beings, become more organized, and their activities being linked to the mainstream of the national economy and receive pay directly and control their earning (UDEC, 2002).

The participation of women in income generating activities is of vital interest to women throughout the developing world. Women participate in those activities which they feel will bring increased income, which they could use to supplement whatever is available or brought in by their spouses. In some cases, however, the women are the breadwinners of the family Wambura *et al.* (2009). Women contribute to agricultural production, especially food production, more than has been generally recognized. The reality in most SSA countries is that more than 50 percent of the active female population works in agriculture, reaching 93 percent in Burkina Faso, 87 percent in Angola, 98 percent in Burundi, 96 percent in Malawi, and 92 percent in Mali and Tanzania (FAO,2011). Women's work in

the agricultural sector often remains invisible because the products of their labor are for the largest part intended for household consumption and do not reach the market economy (Ibnouf, 2009). Household variables such as decision-making patterns and cultural beliefs, norms, consumption practice and utilization of nutrients influence allocation of resources and individual food security Johnson-Welch *et al.* (2000).

While poverty affects households as a whole, gender division of labor and women's responsibilities for household welfare make women bear a disproportionate burden in alleviating poverty. For example, trade liberalization policy in Tanzania removed price control and subsidies. This forced women to look for ways of earning incomes to meet the rising prices of food items. The policy has affected women more because they are the immediate food suppliers at the household level Makombe *et al.* (1999).

Moreover, households in which women have access to their own incomes and can exercise decision making powers, tend to have an expenditure pattern different to the one existing in male dominated households (IDRC, 2004). This is because women tend to spend a significantly higher portion of their income than men on food for the family (FAO, 2006).

Women produce and consume, manage business and households, earn income hire labor, borrow and save and provide a range of services for business and workers. Women represent an increasing proportion of the world's informal sector labor force and their activity rates are rising. In Africa, Asia and Latin America, there is over one third of the officially enumerated workforce (IFAD, 2006). Poor and uneducated women are likely to be found in informal sector operating small eating places “mama lishe” while the richer women have more capital and hence run relatively large enterprise employing more

labour and use appropriate technology. Women contribute substantially to the family budget through IGAs, even where a woman is not completely alone, her contribution to the budget is of utmost importance to the family, more so because women spend more of the income in family welfare.

2.3 Characteristics of Women's Income Generating Activities

Women usually conduct income generating activities of one kind or another; sometimes duplicate business that may lead to problem of considerable competition for market and lack of business sustainability (IFAD, 2006). Majority of these are traditional, low capital input and labor intensive while the returns accruing to them by comparison tend to be low (Women Watch, 2005). According to ILO (2000), women tend to concentrate in the least rewarding income generating activities production that usually covers a fairly narrow range of consumer goods for example garments, woven goods, food processing and handcrafts. Moreover, women tend to keep business close to home to minimize conflict between their many roles as wage earners, mothers and home makers. For example a cross regional studies of women in the informal sector in Zimbabwe found that about 64% of women run their business close to their home (UNICEF, 2006).

2.4 Empowerment of Rural Women through Income Generating Activities

Income generating activities are considered as those initiatives that affect the economic aspects of people's lives through the use of economic tools such as credit. It is being increasingly realized that women's income in a family is very important in relation to the nutritional, economic and educational up-liftment of the family. Economic independence or access to an inherited or self-generated income is considered as the major means of empowerment of women, to a great extent this is true as economic dependence is the worst

form of dependence. To enable women to stand on their own legs, many governments in this third world attempt to advocate income generating activities (Bharathamma, 2005).

2.5 Women's Economic Empowerment

Economic empowerment is one of the means to empower the women. The existence of women in a state of economic, political, social and knowledge disempowerment is known to be a major hindrance to economic development. Not only do women produce and process agricultural products but they are also responsible for much of the trade in these and other goods in many parts of the third world. In many parts of the world, women continue to play an important role as rural information sources and providers of food to urban areas. This may involve food from the sea as well as from the land that is; their capacity to bring about economic change for themselves is increasingly viewed as the most important contributing factor to achieving equality between women and men (Prakash, 2003). But economically strengthening women who are half the world's workforce is not only a means by which to spur economic growth, but also a matter of advancing women's human rights.

Women's work is crucial to the survival of poor households and an important route through which families escape poverty. When women earn an income, they are more likely than men to spend it on food, education and health care for their children and families (ICRW, 2012).

2.6 Women and labor markets

Women and men often work in distinct activities that offer different rewards and career opportunities, even though they have similar education and labor market skills. The division of labour in the households in the most cases tends to affect women's ability to

participate in paid employment, access to education and training, and influences their choice of reproductive activities. The existing social norms strongly influences men's and women's work and working environments whereas some activities are considered more appropriate for men and not for women. In most cases, women tend to be clustered in informal employment throughout the world (IFAD, 2006). In developing countries women work in activities that are characterized by low wage, high job insecurity, low levels of organization and poor working conditions. Consequently women workers may face more insecure employment with fewer benefits and lower wages than their male counterparts (UDEEC, 2002). The existing unequal access to the labour markets and highly gender inequality in labour market, generate the condition that causes gender-wage inequality. Where women's participation in the labor force grew fastest, the economy experienced the largest reduction in poverty rates. Research shows that women's access to employment can be empowering: it boosts women's self-esteem and bargaining power within the household, gives them more mobility and exposes them to new ideas and knowledge (ICRW, 2012). Despite these potential benefits, women's status in the labor market is significantly inferior to that of men. Women tend to be concentrated in the informal economy, working as day laborers on farms or construction sites, domestic servants or petty traders. Such informal sector jobs can make up more than half of the labor market in developing and emerging economies. These jobs often are characterized by lower pay, less security and poor working conditions with few opportunities to advance (ICRW, 2012).

2.7 Women and Access to Economic Resources

Over the past 30 years, formulated policies and laws on property ownership in Tanzania do not discriminate women against men; however, discriminatory beliefs are a common

practice (Chachage, 2005). Tradition and customs on property ownership and control right are still vested in men Tibaijuka and Kaijage (1996), noted by Phillippo (2008). Even among women who are relatively well off, the resources they control are often consumed by the family (Mosha and Johnson, 2004).

The urban and rural women remain a disadvantaged group when it comes to access and control of formal credit facilities. Mukangara and Koda (1997) identified factors contributing to this situation including high rate of illiteracy, lack of collateral, smallness of their and undertakings and their preoccupation in predominantly subsistence level activities. Very few women belong to formal credit associations through which access to formal financing is possible. Studies on women access to credits have shown that, in urban areas most women still depend on the long tradition of mutual aid among themselves and the emergence of informal financing credit arrangements such as rotating savings association. Similarly Kayunze and Twamala (2000) argues that credit should not be given to the very poor individuals, instead it should be given to the less poor who can undertake medium and large scale enterprises and give wage employment to the very poor who may not need credit but need steady wage employment either on or off farm to meet their daily family requirement .Despite their role as the backbone of food production and provision for family consumption in developing countries, women have limited access to critical resources and services. While in most developing countries, both men and women farmers do not have access to adequate resources, women's access is even more limited due to cultural, traditional and sociological factors. Accurate information about men's and women's relative access to, and control over, resources is critical in the development of food security strategies. Women access to economic resources and control of products of

their labor has been worsened by the trends of globalizing economy, where by competing high, requiring quality and large scale productivity (Mbilinyi, 2000). When women farmers can access the resources they need, their production increases, making it less likely that their families are hungry and malnourished (ICRW, 2012).

2.7.1 Women and access to land

Not even 2% of land is owned by women, while the proportion of women heads of household continues to grow. Land reform programmes together with the break-up of communal land holdings, have led to the transfer of exclusive land rights to males as heads of households. This ignores both the existence of female-headed households and the rights of married women to a joint share. Mutangadura (2005) noted that water and land are the most fundamental resources to women's living conditions economic empowerment and to some extent, their struggle for equity and equality. But the majority of women lack access to these resources and most in matrilineal customary system has access to farmland only through their husbands or fathers as they are only granted use rights as land title pass through the male line Chachage (2005) shows that, there are some customs prohibiting women from owning land in certain parts of Tanzania. In some instances, women are not permitted to control the fruits of their labor on economic resources (Rweyemamu, 2003). Evidence from a study carried out in Bukoba areas of Tanzania shows that out of 100 women, 34 had ownership to land. The remaining 66 had usufructuary rights either as wives, widows, sisters or daughters (Kironde, 1996).

2.7.2 Women and access to credit facilities

For countries where information is available, only 10% of credit allowances is extended to women, mainly because national legislation and customary law do not allow them to share land property rights along with their husbands, or because women heads of household are

excluded from land entitlement schemes and, consequently, cannot provide the collateral required by lending institutions. Women's access to technological inputs such as improved seeds, and pesticides is limited. They are frequently not reached by extension services and are rarely members of co-operatives, which often distribute government subsidized inputs to small farmers. In addition, they lack the cash income needed to purchase inputs even when they are subsidized. On sources of funds for starting and running business, the insufficient internally generated liquidity is therefore one of the factors which are frequently cited as the causes of micro entrepreneurs business failure (Chijoriga and Cassimon, 1999). When women own property and earn money from it, they may have more bargaining power at home. This in turn can help reduce their vulnerability to domestic violence and HIV infection (ICRW, 2012).

2.7.3 Women and access to decision-making

Given the traditionally limited role of women in decision-making processes at the household, village and national levels in most cultures, their needs, interests and constraints are often not reflected in policy-making processes and laws which are important for poverty reduction, food security and environmental sustainability. The causes of women's exclusion from decision-making processes are closely linked to their additional reproductive roles and their household workload, which account for an important share of their time. The cultural environment of coast regions makes it more difficult for women to start and run enterprises due to the expectations and demands of their traditional reproductive roles (Olomi, 1999).

2.7.4 Women and access to research and appropriate technology

Women have little access to the benefits of research and innovation, especially in the domain of food crops, which - in spite of ensuring food security at the household and

community level - have a low priority in crop improvement research. In addition, women farmers' roles and needs are often ignored when devising technology which may cause labour displacement or increased workload. When women have access to time-saving technologies – such as a foot-pedaled water pump or a motorized scooter – economic benefits can follow. ICRW research has found that technology helps women increase their productivity as well as launch income-generating pursuits and entrepreneurial ventures. Those kinds of outcome empower women to become stronger leaders and to more effectively contribute financially to their families, communities and countries (ICRW 2012).

2.7.5 Women's access to business premises

Majority of women operating income generating activities (IGAs) face serious problems in terms of working premises. The ILO (2000) study shows that ,as much as 60% of the business in informal sector operate along the streets in Tanzania particularly in urban areas where the business are concentrated, it is impossible for small and medium enterprises to acquire plots for constructing business premises because of bureaucracy, corruption and the limited number of surveyed plots (UDEEC, 2002). Women are constrained by education/training, business experience; discriminations, socialization/networking and unwillingness to take risk Also the overall negative attitudes towards the business owned by women- particularly by men, and inadequate and affordable business premises also limit the overall performance of female owned enterprises (Nchimbi, 2002). As a result even relatively well to do business operators are forced to locate their IGAs in their residential areas and hence create frictions between business operators and government enforcement agencies.

2.7.6 Women and access to goods market

Marketing is very important aspect for the success of any enterprise, regardless of their size or gender dimension ILO (2000) identifies that lack of market opportunities is one of the constraints for micro and small enterprises undertaken by women. When governments, businesses and communities invest in women, and when they work to eliminate inequalities, developing countries are less likely to be plagued by poverty. Entire Nations can also better their chance of becoming stronger players in the global market place, (ICRW, 2012).

2.7.7 Women's IGAs and record keeping

Successful running of IGAs requires its operation to keep records on the expenses and income. Record keeping in business is very valuable for day to day activities as well as long term management decisions .It gives a valuable background of actual information by which current performance and the changes that occurred , both in performance and systems and techniques can be revaluated.

2.8 Household Food Security concept

The concept of 'food security' has developed over the past four decades; the concept came increasingly in the focus, especially of the food and nutrition policy debate, in the mid 1970s, following a world crisis in the early 1970's. Concerns about food security up to the end of the 1970's were directed more at the national and international level, and concerned the ability of countries to secure adequate food supplies. Only later did the level of analysis shift to include a focus on food security at local level, even down to households and individuals (Young, *et al.* 2001). Food security is and will remain among the most

burning issues in Africa for the next ten years and beyond with available projections putting the number of food insecure people by 2020 at about 500 million (UN, 2011).

Food security refers to “access by all people at all times physically, socially and economically to enough, sufficient, safe and nutritious food that meets their dietary needs and food preferences to maintain healthy and active life and food insecurity is the lack of this access (FAO, 2002). The concept of food security is built on four pillars (i) Food availability: sufficient quantities of food available on a consistent basis.(ii) Food access: having sufficient resources to obtain appropriate foods for a nutritious diet.(iii) Food utilization: appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation to derive sustenance food and (iv) Food stability- the need to access food in both short and long term.

2.9 Methods of Food Security Determination

Food security determination methods can be grouped into five main categories. (a)Determination of food sufficiency based on actual food intake (b) Assessment of food availability in terms of grains obtained (c) Food security determination using the entitlement to food approach (d) Food security determination based on access to enough food at all times and (e) Food security determination based on process and outcome indicators.

2.9.1 Determination of food sufficiency based on actual food intake

By this method of food security determination , kilocalories contained in grains eaten are calculated, inflated for energy from other sources, and compared with the minimum

recommended dietary energy intake, to judge whether an individual or household is food secure. The focus on the energy aspect is justified by the fact that under nutrition, rather than malnutrition is nowadays widely regarded as the principal nutritional problem in most developing countries. Another point for justification of using the energy method is that in developing countries grains supply more than 50% of human food energy intake and they contain some other nutrient Brown and Kane (1994), Kim *et al.* (1998). Based on dietary intake, a household is food insecure if it consumes fewer than 2280 kcal per adult equivalent per day. This is the amount that is recommended by the World Health Organization that the minimum dietary energy intake per day per adult should not be less than 80% of the adequate daily caloric intake of 2,850 kcal Reardon and Matlon (1989), cited by Wanmali and Islam (2002). The above amount (2,280) is 80% of 2,850. However in Tanzania the minimum dietary energy intake is 2,200 kcal per adult equivalent per day (NBS, 2002).

Dietary energy consumed in terms of kilocalories is normally expressed per adult equivalent or per capita, both per day. When dietary energy consumed is expressed per capita per day, a household is food insecure if it consumes less than 2,100 kcal per capita per day unlike the 2,200kcal per adult equivalent per day. The global average dietary energy consumption per capita per day is 2100 kcal (Silke and Hand-Peter, 2005). In both cases of dietary energy consumed per adult equivalent and per capita per day the cut –off point formula, which was introduced in 1961 by Sukhtame, Naiken (2007) is used to separate food secure households from food insecure ones.

2.9.2 Assessment of food availability in terms of grains obtained

Using this method of food security determination, grains obtained through production, purchase and receipt in kind are recorded and compared with the average amount of grains

recommended per capita. The amounts of such grains vary in different regions of the world. For example, the amounts in USA, Italy, and India are 800 kg, 400 kg and 200 kg respectively per capita per year (Brown and Kane, 1994). Unlike the above average amounts of grains consumed in other countries, the minimum recommended amount of grains for one to be considered food secure in Tanzania is 270 kg per adult equivalent per year (URT, 1999).

2.9.3 Food Security Determination using the entitlement to food approach.

The access and entitlement to food approach resulted to pioneering work of food entitlements by Amartya Sen (1981). While the above approaches to food security deal with the supply of food through production and sufficiency of food that is indicated by consumption of enough kilocalories, the entitlement approach contends that shortage of food supply is usually not the ultimate cause of famine and endemic hunger. The approach was formulated by Amartya Kumar Sen in 1981 contending that food insecurity is not an issue of low food supply but it is an issue of lack of entitlements to get access to food. The entitlements include having money to buy food. Based on this approach, food security is normally determined by calculating the amount of money that is needed to obtain food that contains the minimum amount of dietary energy and people unable to get such amount of money are said to be food insecure. Using this approach the most food secure households are those which achieve adequate access to food while using only a small proportion of available resources; the most food insecure households are those which fail to access to adequate food even by devoting a large proportion of available resources to food (Maxwell and Frankenberger 1992). Using this approach, Bne-Saad (2000) conceptualizes that households with access to resources including enough rainfall,

good soil quality, water availability, forest resources, fish and seafood, livestock ,infrastructure, farm implements, land and other physical assets are more likely to be food secure than their counterparts who either do not have such access or have poorer access to the resources. The same author Bne-Saad (2000) also conceptualizes that households that have larger land area cultivated, irrigated area, good supply and use of inputs, Number of cropping seasons, crop diversity, crop yield, food production, cash crop production, number of sources of non-farm income, and equitable gender division of labor are likely to be more food secure than their counterparts who either do not have the factors or have poor amounts and qualities of them. He also conceptualizes that households with good income in terms of total income, crop income, livestock income, wage income, self employment, migrant income, producer prices, good market of their products and road access are likely to be more food secure than their counterparts who do not have such income.

2.9.4 Food Security Determination based on access to enough food at all times

In this approach, attention is paid to chronic and transitory food insecurity. Chronic food insecurity means that a household runs a continually high risk of inability to meet the food needs of its household members, unlike transitory food insecurity which occurs when a household faces a temporary decline of its entitlement and the risk of failure to meet to food needs is of short duration. Transitory food insecurity is divided into cyclical and temporary food insecurity CIDA (1989), cited by Maxwell and Frankenberger (1992). In order to determine food security using this method, months in which people have abundant food and those in which people hardly have food are identified, and the percentage of people with food shortage are estimated. Not only the percentage, but also reasons for the

shortage and abundance of food are established. In rural areas where most people rely on production of food for their food security, such months of food shortage are normally during farm preparation and sowing. Such food shortages also occur a few months before harvesting since food stocks from the previous season have been exhausted.

2.9.5 Food security determination based on process and outcome indicators

Process indicators of food security include variables that reflect food supply by providing information on the likelihood of a shock or disaster that will adversely affect household food security (Maxwell and Frankenberger, 1992). They include such things as inputs and measures of agricultural production, access to natural resources, institutional development and market infrastructure, and exposure to regional conflicts or their consequences. There are grouped into direct and indirect indicators. Direct indicators of food security are those close to food consumption rather than to marketing channel information or medical status. Indirect indicators are generally used when direct ones are either unavailable or too costly in terms of time and money to collect.

2.10 Theoretical Approach on Food Security

Sen's entitlement approach to food security, "People do not usually starve because of an insufficient supply of food at the local, national or international level, but because they have insufficient resources, including money ('entitlements') to acquire it" (Sen, 1981). Entitlements are defined as the set of alternative commodity bundles that a person can command in a society using the totality of rights and opportunities that he or she faces. Sen classified entitlements into three categories, namely, (i) Endowments, which are all legal resources that can be used to obtain food, including money, land, machinery and

animals and abstract resources such as labor power (ii)Entitlement mapping which includes terms of trade between endowment and foods, goods, and the ratio between money wages and the price of food or the input output ratios in farm production, and (iii)Entitlement set, which represents the basket of food goods and services that a person can obtain using his or her endowment.

2.11 Information Related to Food Security

2.11.1 Some practical examples on how to determine food security

2.11.2 Determination of food security based on actual food intake

It has been noted that, URT (1999) actual indicator of food security is dietary energy consumption (DEC). The dietary energy consumed per capita per day and per adult equivalent per day was calculated. The first step was to find the adult equivalent units (AEUs), using calorie requirement by Age and Sex (Table 1) and the second step was to adjust adult equivalent units (AAEUs), for economies of scale. The Adult equivalent scales for East Africa are presented in (Table 2) and (Table 3) as Calorie Requirements by Age and Sex and Household Economies of Scales respectively. The scales were used aware of the fact that if variables like income and dietary energy consumed are expressed per capita they do not reflect good comparative figures in households with different sizes and composition by age and sex. Dietary energy consumed was expressed per adult equivalent following Collier *et al.* (1990) procedure in their study in Tanzania. In order to calculate adult equivalent units, the sex and age of every household member must be known first. Then a two step procedure follows whereby the household composition of every household are added up for all members to get the total household members in terms of adult equivalents.

2.11.2.1 First step: How to find adult equivalent units (AEUs)

Table 1: Finding adult equivalent units

Household members	Sex	Age	Calorie requirements	No. of individuals
Household head	Male	45	1.00	1
Wife	Female	35	0.88	2
Children	Male	15	1.20	3
	Female	12	0.88	4
	Female	9	0.76	5
	Female	7	0.64	6
	Male	5	0.56	7
	Female	5	0.56	8
Total			6.48	8

$$\text{AEUs} = 1.00 + 0.88 + 1.20 + 0.88 + 0.76 + 0.64 + 0.56 + 0.56 = 6.48$$

Source: Deaton, A., and C. Paxson. 1998

2.11.2.2 Adult equivalent scales for East Africa

Table 2: Calorie Requirements by Age and Sex

Age group	Sex	
	Male	Female
0-2	0.40	0.40
3-4	0.48	0.48
5-6	0.56	0.56
7-8	0.64	0.64
9-10	0.76	0.76
11-12	0.80	0.88
13-14	1.00	1.00
15-18	1.20	1.00
19-59	1.00	0.88
60 +	0.88	0.72

Source: Deaton, A., and C. Paxson. 1998

Table 3: Household Economies of Scale

Household size(number of adults)	Marginal cost	Average cost
1	1.000	1.000
2	0.892	0.946
3	0.798	0.897
4	0.713	0.851
5	0.632	0.807
6	0.632	0.778
7	0.632	0.757
8	0.632	0.741
9	0.632	0.729
10+	0.632	0.719

Source: Deaton, A., and C. Paxson. 1998

2.11.2.3 Second step: Adjusting adult equivalent units (AAEUs) for economies of scale

AAEUs are equal to the number of adult equivalent units (AEUs) times the average cost factor. For example the average cost factor corresponding to household 6 in the table (economies of scale) is 0.778. Therefore for this household, AEEU = 6.48 x 0.778 = 5.04. Since the total annual income for the whole household is Tshs 240 500, the total income per adult equivalent is 240 500/ 5.04= 47,718.25 Tshs. This procedure was done for each 120 respondents' households to get various values per adult equivalent. The main response variable, dietary energy consumed (DEC) was calculated based on maize grain consumed because it is the main staple foodstuff in the research area. In Tanzania cereals supply 80% while other foods supply 20% of energy, Seshami (1981), cited by Ashimogo (1994). Therefore using only grains, DEC obtained has to be inflated by multiplying it by 100/80 to cater for energy from other foods. Tables for Proximate Composition of Foods commonly

Eaten in East Africa were used for calculation. Maize (dry flour) contains 362Kcal per 100 grams and rice (white grain) contains 358 Kcal per 100 grams, according to West *et al.* (1998).

For example if the only grains eaten in a household were 0.5kg of maize per adult equivalent per day. DEC would be $(362\text{kcal} \times 0.5 \text{ kg})/0.1 \times 100/80$, which is 2262.5kcal per AE/day. According to NBS (2002), 2200kcal per adult equivalent per day is the official minimum recommended dietary energy intake in Tanzania. Therefore household members who consume less than 2200 kcal per adult equivalent per day were considered to be food insecure. Those who consume more than 2200 kcal per adult equivalent per day were considered to be food secure.

CHAPTER THREE

3.0 MATERIALS AND METHODS

3.1 Description of the Study Area

The research area is Bagamoyo District which is among six districts of Coast Region, others are Kibaha, Kisarawe, Rufiji, Mkuranga and Mafia. The choice of the study area was based on the expected impacts of women's non farm income generating activities to household food security in the area.

3.1.1 Geographical location

Fig. 2 shows the location of the study area. The district lies between latitude 38° and 39° South and Longitude 6° and 7° East. The study was conducted in four wards of Mapinga, Msoga, Dunda, and Kerege. The four villages were randomly selected to represent the whole district.

3.1.2 Population, land and administration unit

According to NBS (2012) Tanzania Population Census, the District has a population of 284 063 people whereby, 138 105 were male and 145 958 females. However, population density is estimated to be 4.6 people per square km. The district covers a total of 9842 square kilometers of land, of these 855, square kilometers are covered by water (ocean and rivers), and 8987 square kilometers is a dry land. The district is divided into six (6) divisions, 22 wards, 101 registered villages and 467 hamlets.

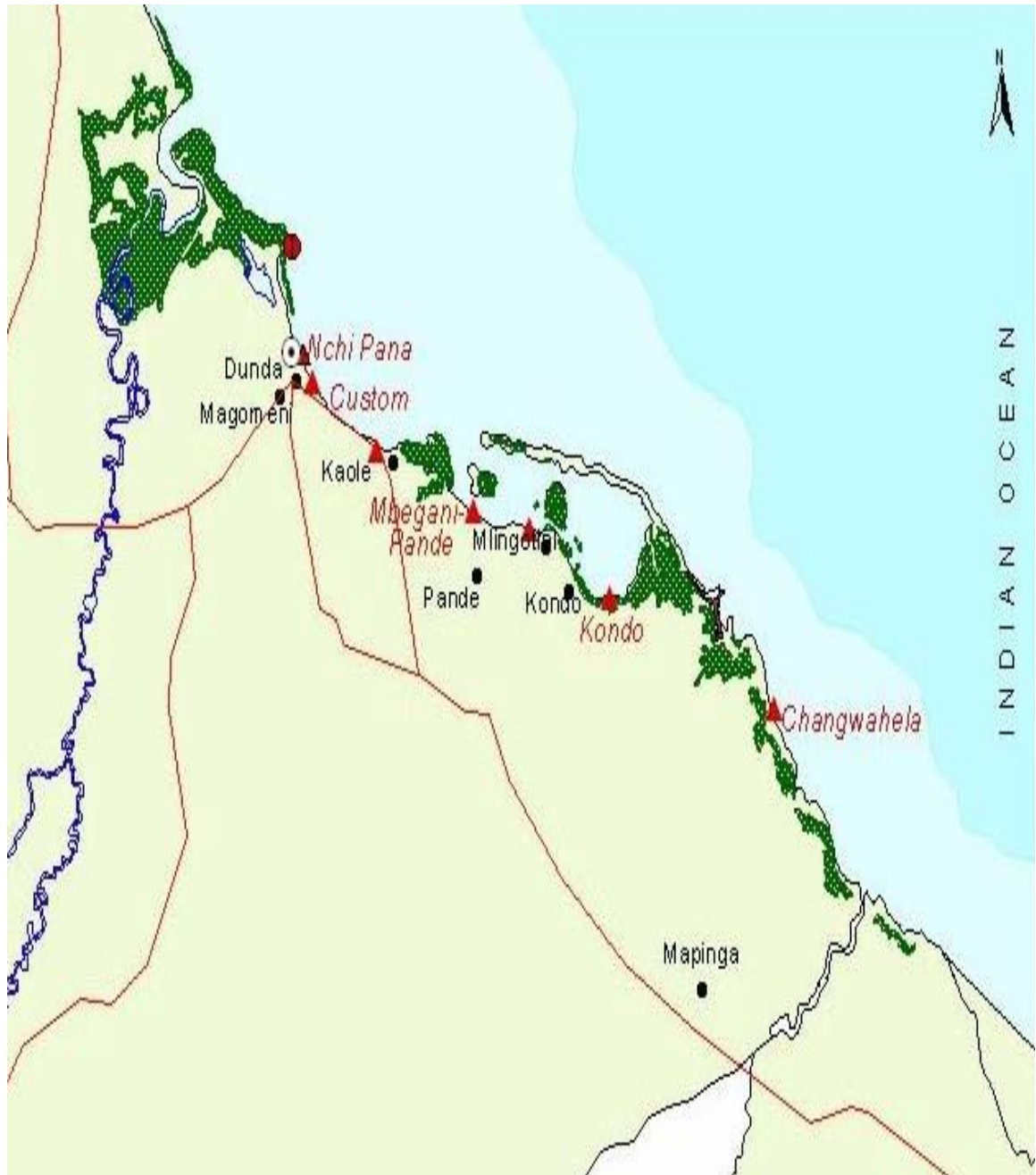


Figure 2: Sketch map of the Coastal area of the study area (Bagamoyo District)

3.1.3 Climate

The district has two main rainy seasons that run from February or March to June and August and October with the mean annual rainfall of 800-1000 mm per year. The coastal strip receives relatively more precipitation than the up- country.

3.2 Ethnic groups

The main ethnic groups in the Bagamoyo District are Kwere, Doe, Zigua, Zaramo and Maasai.

3.3 Economic Activities

The major economic activities in the district are farming, livestock keeping and fishing.. Other occupations are boat building, salt making and seaweed farming. Food crops grown include maize, cassava, sweet potatoes, and coconut. The main cash crop has always been cashew nut. Other economic activities are petty trading, vegetable cultivation, fruit cultivation, and poultry keeping.

3.4 Research Design

A social survey was conducted, whereby a cross-sectional research design was used in which data from respondents was collected at a single point at a time whereby both purposive and cross-sectional data collection approach were adopted. The design is simple, saves time, labour, and financial resources by allowing a research study of a large population at once (Bailey, 1998).

3.5 Data Collection

Both primary and secondary data were collected based on the study field survey. Primary data mainly were collected using structured questionnaires. Other methods include direct

observation and focused group discussion. Secondary data was obtained through a review of relevant documents. Several literatures were visited and relevant information related to the study was collected.

3.5.1 Primary data collection

This constituted the sampling frame, while the unit of analysis was the individual household. Four villages were enumerated and from these villages a list of households was established in collaboration with sub village leaders Primary data was collected from women respondents. Questionnaires were designed for women who are participating in non-farm income generating activities, using structured questionnaires with open and close-ended questions and the checklist for key informants.

3.5.2 Secondary Data Collection

Published and unpublished information/data were collected from different sources such as monthly, quarterly and annual reports from the LGA offices. Ward and Village office were used to give general information and issues related to the study area. Other sources of information were from Sokoine National Agricultural Library and internet sources.

3.6 Data Processing and Analysis

In order to draw conclusion data collected from the primary source using the structured questionnaire were summarized and coded before being entered into a computer for analysis .The analysis of quantitative data was done with the aid of Statistical Package for Social Sciences (SPSS) version 16. The Software Program was used to analyze the data collected using descriptive analysis which involved computation of means, frequencies,

percentages, standard deviation and range of different variables. T-test was used to evaluate significances and compares the actual difference between two variables.

3.7 Questionnaires

Questionnaires were developed to pursue major issues identified during reconnaissance survey. There was one type of questionnaire with open and close-ended questions designed for women respondents (Appendix 2). A household in this sense was defined as a person who lives on his/her own or those living together, sharing eating and working and contributing to the household income. This approach of data collection provided enough information required for determining the roles of non-farm income generating activities to household food security.

3.8 Checklist

A checklist was used to collect information from key informants such as; village leaders and few government officials, e.g. Village Executive Officer (VEO), Village Agricultural Extension Officer (VAEO), Community Development Officer and the Ward Councillor. Focus group discussion was done in each village and it involved village government leaders, prominent people (preferably) the old, youths and community based organization representatives, making a group of 20 people (both men and women).

3.9 Limitations of the Study

- (i) Unwillingness to get interviewed - a number of respondents was unwilling to spend their time being interviewed as they were told there was no money after the interview.

This problem was solved by the assistance of a village executive officer and a well-experienced extension staff to get the required information.

- (ii) Keeping records.-Data related to income earned and spent per household is a big limitation because of failure of respondents to keep records and to recall memory. The experience of the village executive officer and a well experienced extension officer was instrumental in getting the required information.
- (iii) Accessibility.-Some areas were not easily accessible due to geographical location.
- (iv) Wrong Perception: - Some respondents were not open to answering questions particularly those questions involving their welfare, for example on the income earned per week, monthly or per year. They were also hesitant of telling how much they spent on household food and the contribution of men in their activities. Others were even reluctant to say why they decided to engage in non-farm income generating activities without involving their husbands. By telling them the secrecy of the interview, I managed to interview them in the absence of anyone else.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

This chapter presents the consolidated results of the research on roles of women's non-farm income generating activities to household food security in study conducted in four wards in Bagamoyo District. The chapter comprises the following sub titles namely, demographic characteristics of the respondents, types of non-farm income generating activities, characteristics of women income generating activities, training for operating IGAs, the use of income from IGAs to household's food security, major causes of food insecurity, food security coping strategies and lastly the T-test was done to find the average amount spent on food by the two groups.

4.1 Demographic Characteristics of the Respondents

In this study, demographic characteristics of the respondents included age, marital status and level of education. These characteristics influence the attitude and perception of local communities on investment of any foreign project to their vicinity.

4.1.1 Age of respondents

Age is an important demographic variable and a primary basis of demography in vital statistics, census, and surveys (URT, 2005). Age may also give a picture of a household's labor and income. The survey results as shown in Table 4, indicates age of women participating in non-farm income generating activities ranging from below 30 to above 60 years. Results from the survey show that the majority of respondents (46.7 %) ranged between 30 and 45 years. The second largest group (35.8%) was aged between 46 and 60

years, while the rest of 12.5. % and 5.0 % were aged below 30 and above 60 years respectively. Thus the findings imply that majority of respondents in non-farm IGAs are between 30 and 45 years representing the most economically active population in the area. This indicates that most women at the middle age are more productive than at old and lowest age therefore a need to empower them in their opportunities for income generating activities. Similar observations were observed by Phillippo (2008) in a study done in Kigoma Urban District where majority of respondents in non-farm IGAs were between 25 and 45 years old. Composition of household members in terms of their age distribution has implications on the household ability to meet its food requirements Sango (2003) cited by Kayumbu, (2008). Moreover, age of an individual has a great influence on food security in the household (URT, 2005). Having many members in any household who are not productive usually results to food insecurity as the labor force decreases Mhinte (2000) cited by Kayumbu (2008).

4.1.2 Marital status

Marital status has been used as an important factor that may influence women's participation in income generating activities. In this study, marital statuses were categorized as single, married, divorced /separated and widowed. The survey results as shown in Table 4, indicates that most (44.2%) of the respondents interviewed were married, (28.3%) were not married, (15.0 %) were divorced while (12.5%) were widowed. However the study showed that, most of married women involved themselves in business activities so as to provide for needs to their families. Novarty (2005) reported that, married couples are likely to be more engaged in income generating activities than single women

due to labour reinforcement in accomplishing farm and non- farm activities hence the married women are likely to be in a food secured situation.

Table 4: Distribution of respondents by demographic characteristics in Bagamoyo

District (n=120)

Category	Frequency	Percentage (%)
Age		
Below 30	15	12.5
30-45	56	46.7
46-60	43	35.8
Above 60	6	5.0
Marital status		
Married	53	44.2
Single	34	28.3
Divorced/separated	18	15.0
Widowed	15	12.5
Education		
None	22	18.3
Primary education	90	75.0
Secondary education	3	2.5
Post- secondary education	1	0.8
Adult education	4	3.4

4.1.3 Education

Education is always valued as a means of liberation from ignorance and enables one to perform effectively the economic activities. The survey results as presented in Table 4, indicate that the majority (75.0 %) of respondents had attained primary education and 18.3% of the respondents interviewed had never attended formal education. The remaining 0.8% and 3.4 % of the respondents had attained post secondary school and adult education respectively. Education attainment of respondents indicated that higher percentage of respondents had only attained primary education as their highest level of education.

Education can also affect the level of earnings from IGAs. Jonna and Otsuke *et al.* (1999) cited by Phillip (2008) in their study on off-farm employment among farm households in central Luzon, Philippines, observed that higher returns among farmers undertaking off-farm activities were from those with more years of formal education. In a study conducted by Edward (2003) in Rombo District, he found that 17% of females had primary education and 7% had no formal education. This shows that females had less opportunity to education than males. Results show the prevalence of male dominance cultures which oppress and discriminate female children and deny women's access to education. Also, the traditions and customs of forced and early marriages to girls usually deny females of their opportunity to education. Similar results were observed by Mvuna (2000) in a survey done in the Coast area and Dar-es-Salaam of nearly a thousand women, Over 90% of the respondents had not completed even the primary school. Due to high illiteracy level, it becomes very difficult for less educated women to actively take part in seeking information regarding income generating activities and disadvantaged in relation to access the economic resources such as credit facilities.

A similar observation was made by Kayunze and Twamala (2002) who argued that credit should be given to sufficiently educated borrowers. In addition, Kuhn and Cheston (2002) reported that combination of education and credit can put women in a stronger position to ensure equal access to food, schooling and medical care. Meena (2005) identified that education policies and educational plans have limited the ability of women to fully utilize their intellectual energies in management of their economies. Low level of education and literacy especially among smallholder farmers who constitute the majority of agricultural

producers in Tanzania has significant limiting effects on rural economic development growth and therefore on poverty; a driving force behind resource use conflicts.

4.2 Types of Non-farm Income Generating Activities Undertaken by Women

Income generating activities (IGAs) undertaken by women in the study area included the most important non- farm income generating activities undertaken by women in the study area. These include, food vending (*mama lishe*), selling buns/doughnuts, selling vegetables, selling fried fish, selling charcoal, selling local brew, tailoring and hair braiding. The survey results as shown in Table 5 indicates that most respondents (35%) were engaged in food vending while very few (2.5 %) were engaged in tailoring and hair braiding respectively.

Table 5: Distribution of respondents by types of non-farm income generating activities undertaken by women in Bagamoyo District (n=120)

Category	Frequency	Percentage (%)
Types of non-farm activities		
Selling bans/doughnuts	26	21.6
Food vendors	42	35.0
Hair braiding	3	2.5
Selling local brew	5	4.2
Tailoring	3	2.5
Selling of fish	12	10.0
Selling vegetables	18	15.0
Selling firewood	5	4.2
Selling charcoal	6	5.0

It is evident that most women in the study area were engaged in one type of economic activities at a time. This finding is supported by UDEC (2002) identified that low capital

investment used by most women to establish income generating activities is the major cause of being concentrated in one type of IGAs. Lukindo (2007) in Tanga Region observed that, 65% of female respondents depend much on non-farm income generating activities, while 25% of the respondents depend on farming and only 10% on salaries or wages. Different observations were made by Franco (2005) in Mgeta Division, Morogoro who observed that 75% of the respondents earn their living through farming and 25% involved in non-farming activities. From the focus group discussion it was learnt that majority were forced to engage in non-farm IGAs because of lack of employment opportunities as a result of low education and high cost of living.

4.3 Characteristics of Women Income Generating Activities (IGAs)

4.3.1 Years in business

The survey results as shown in Table 6, indicate that number of years a person is involved in non- farm IGAs has an influence on household food security. Most experienced women with at least five or more than five years in business are those who had courage to access loans and also able to attend some trainings. The number of years since the respondents engage in IGAs was categorized into five groups. The survey results showed that majority (38.3%) of respondents had been engaged in IGAs for more than five years, followed by 23.4% who were engaged for five years only and 13.3% who were engaged for four years. The remaining 12.5% were engaged in business for three and two years each. Being engaged in IGAs for more years has an advantage to respondents since from the findings it was found that they are the ones with courage to access loans and also able to attend some trainings. Thus, there is potential for women to access loans and attend training in this community.

Table 6: Distribution of respondents by number of years in business, major income earner and reasons for starting IGAs in Bagamoyo district (n=120)

Category	Frequency	Percentage (%)
Number of years in business		
Two years ago(2010)	15	12.5
Three years ago(2009)	15	12.5
Four years ago(2008)	16	13.3
Five years ago(2007)	28	23.4
More than five years ago	46	38.3
Major income earner		
Myself	59	49.2
Husband	18	15.0
Both	43	35.8
Reasons for starting IGAs		
To be less dependent to husband	33	27.5
To assist the husband	23	19.2
Husband's less responsibility	7	5.8
To pay school fees for children	30	25.0
To increase family income	27	22.5

4.3.2 Major family income earner

The survey results as shown in Table 6, indicate that nearly half (49.2 %) of women respondents are the main income earners of the household, while only 15.0% are earned by their husbands. The remaining (35.8%) is earned by both wife and husband. These differences are caused by the fact that the majority of income earners of the households in the study area are women coming from women headed households who are singles, widowed and separated /divorced ones. From the study it is evident that most women headed households engage in income generating activities to cater for the family needs of food, school fees, medication and clothing. More efforts should be geared in enabling them either by capital, credit, entrepreneurship skills, extension services, marketing

systems, and acknowledging their work, and that income obtained by women is more likely to be used for household use.

4.3.3 Reasons for starting IGAs

The survey results as shown in Table 6, indicated that majority of respondents (27.5%) started IGAs in order to earn their own income to become less dependent to their husbands, followed by payment of school fees (25.0%). The rest 22.5%, 19.2% and 5.8%, reported to increase family income, to assist their husbands and because of less responsible husbands as their major reasons. This finding indicates that majority of respondents were engaged in IGAs in order to earn their own income and become less dependent to their husbands. Makombe *et al.* (1999) identified that women's increasing participation in IGAs is due to the current economic hardships in Tanzania that led to the collapse of many industries in public and private sectors reducing income of their husbands and so forced many married women to engage in IGAs to increase family income. Bryceson (2000) noted that in some places in rural areas in Africa there is a strong attraction for women towards joining informal economic activities where the earnings generated from non agricultural activities are taken to be theirs, whereas earnings from farming activities belong to the whole family.

Table 7: Distribution of respondents by business location payment of rent, reasons for location and management of IGAs in Bagamoyo district (n=120).

Category	Frequency	Percentage (%)
Business Location		
Residential premises	41	34.2
Non-residential premises	79	65.8
Payment of rent		
Paying rent	41	34.2
Not paying rent	79	65.8
Reasons for choosing location		
To combine house cores and IGAS	42	35
Easy to get customers	53	44
Don't pay rent	10	8.5
Near the market place	15	12.5
Management of IGAs		
Unpaid family labour	85	70.8
Paid employees	7	5.8
IGAs owners	28	23.4

4.3.4 Business location, payment of rent

The survey results as presented in Table 7, indicate that majority (65.8%) of the respondents operated their non-farm IGAs in non- residential premises and 34.2% located in their residential premises. Majority of the respondents located their business in non-residential areas such as at market place or near the main roads because many customers frequent them. Those who locate their business in residential areas do so in order to enable them look after their families and avoid paying rent and some around their residents to be able to combine IGAs as well as household chores. By operating in informal premises, it makes it difficult to access credit from credit agencies since few lenders will extend credit

to non-farm IGAs that have no fixed premises. UDEC (2002) noted that most women who are operating non-farm IGAs in open spaces are insecure about their future and become less motivated to expand their businesses.

4.3.5 Reasons for choosing the location

The survey results as shown in Table 7, indicate that most (44%) of respondents have located their business in the place that will be easy to get customers. About 35% of the respondents were doing their IGAs around their homes for the purpose of not paying rent and being able to combine the household chores and their business. However it was found that most women operate IGAs in the location where it is easy to get customers. This finding is in agreement with UNICEF study (UNICEF, 2006) which identified that even women who participate in economic activities, they still undertake the majority of the work in their homes, for example a woman in paid employment performs household tasks that absorb 33 hours of their time each week, in contrast to men's contribution to domestic chores which amount to just 16 hours per week.

4.3.6 Management of IGAs

The survey results as shown in Table 7, indicate that most (70.8%) of the respondents depended on unpaid family labour to help run IGAs, this includes children who help their parents after school hours. The rest 5.8% and 23.4 % used paid employees and the owner respectively. This finding implies that in operating income generating activities women are sometimes getting support from other family members. The possible reason for most operators of IGAs in this study to use unpaid family labor may be due to small size of their economic activities. In her study, Bryceson (2000) identified that women IGAs are

characterized by the following elements; activities which are not permanent and change according to change in external factors such as weather, availability of capital, labor and equipment; activities which produce small profit which does not allow for savings, expansion and in most cases are household based relying on unpaid family labour.

4.4 Training for Operating IGAs

There is general agreement that the entrepreneur training increases productivity, and a number of literature exist documenting the positive effects of the training on human capital development (Mwanyika, 2001; MacConnel *et al.* 1990; Collier, 1989; Riodan *et al.* 1997). Similarly, Taylor (1988) noted that training is a fundamental aspect of both technology development and small business management. The survey results as shown in Table 8, indicate that majority respondents (87.5%) had received no training on how to operate business.

Table 8: Distribution of respondents who received training for operating IGAs

(n=120)

Category	Frequency	Percentage (%)
Training for operating IGAs		
Respondents who had received training	15	12.5
Respondents who had not received training	105	87.5

The few respondents (12.5%) respondents had received short trainings from FINCA, SIDO, PRIDE, Bagamoyo Lutheran Centre and only one from MATI-TENGERU. This finding indicates that majority had no skills in operating their business but their operation is mostly based on personal experience or else by coping from others. The finding reveals

that no formal training on entrepreneurship was ever provided to respondents in the study area which ultimately has an implication on poor IGAs performance. Government needs to formulate policies that ensure that women are given priority in education and trainings on entrepreneur skills to improve their performance, and hence productivity. Similar observations were made by Lukindo (2007) who observed that majority (53.3%) of respondents had received no training while only the few (46.7%) received some training. Similarly, Nkurlu (2000) observed that 88.8% of the respondents had not received any training in running their businesses.

4.5 The Use of Income on Household's Food

The survey results as shown in Table 9, indicates the use of income for basic needs between women respondents and men in the households per month.

Table 9: Distribution of respondents by the use of income for major household needs in Bagamoyo District (n=120)

Category	Women respondents (n=60)		Men respondents (n=60)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Basic needs covered by income from IGAs				
Food	34	56.7	26	43.3
Medical	32	53.3	28	46.7
Clothes	30	50.0	30	50.0
School fees	28	46.7	32	53.3
Shelter	15	25	45	75
Income covering the basic needs				
Respondents whose income covers basic needs	45	75	15	25
Respondents whose income do not cover basic needs	18	30	42	70

4.5.1 Basic needs covered by income from IGAs

The study results as shown in Table 9, indicates that about (56.7%) of the basic needs bought by women respondents using income generated from non -farm IGAs is food, whereby only (43.3%) of the food is bought by men .The income used by women on other needs such as treatment, buying clothes, school fees, and shelter are (53.3%), (50.0%), (46.7%) and (25%) respectively; men contribution is (46.7%), (50.0%), (53.3%) and (75%) respectively. The results imply that women have greater role to play in household's need of food and medical services compared to men. Comparable allocation on clothes was observed while for school fees and shelter women contributed less compared to men. Men mainly play greater role on school fees and shelter as an annual or monthly payment which still makes it a low burden compared to women who must buy food everyday for the household and feed children. Musoke *et al.* (1998) cited by Kayumbu (2008) in a study conducted in Pawaga Iringa region observed that there was strong patriarchal relationship between men and women through which different positions and duties were allocated. However, it was observed that women play greater role in household management and contribute more to basic needs such as food to their families than anyone else in the household. Similarly, a study conducted in India found that women in poor households and other parts of the world spend most of the earnings under their control on basic household needs, while men tend to spend a significant part of their income on personal goods such as alcohol and tobacco Argwal (2003), cited by Kayumbu (2008).

4.5.2 Income from IGAs and household basic needs requirement

The survey results as shown in Table 9, indicate that majority (75%) respondents managed to meet their basic needs. On the other hand, 30% of women respondents stated that their

income does not meet their basic needs. These results imply that though the income attained is small still more women manage to meet their basic needs. Sakiko (1999) suggested that, it is essential to analyze human poverty and the deprivation of capabilities as a way to focus on deep-seated structural causes of poverty so as to design strategies to empower women. Empowerment of women is necessary to increase their capability to meet basic needs of household as there is potential for this endeavor.

4.6 Major Causes of Food Insecurity

The survey results as shown in Table 10, indicate that majority (44.2%) of the respondents reported poor rainfall distribution as their major reason for food insecurity followed by (25.8%) who identified excessive selling of harvests (especially during bumper time) as another reason for food insecurity. The remaining 20.0%, 4.2% and 5.8% were poor storage techniques, traditional ceremonies, and large number of dependants respectively. The causes vary from one area to another.

Table 10: Distribution of respondents by major causes of food insecurity in Bagamoyo District (n=120)

Category	Frequency	Percentage (%)
Causes of food insecurity		
Poor rainfall distribution-low production	53	44.2
Excessive selling of harvests	31	25.8
Poor storage techniques	24	20.0
Traditional ceremonies	5	4.2
Large number of dependents	7	5.8

Studies done by Kayumbu (2008) and Phillip (2003) differ from the study results. They said that lack of labor force was the major reason whereas most of family members are used as labor force for both farming and non-farm IGAs. Results agree with different studies done by Liwenga (1995), Makundi (1996), Ishengoma (1998) and Mtebe *et al.* (1998) who observed that the causes of food insecurity were poor rainfall distribution and excessive selling of crops, use of food grains for local brewing, large family size, poor storage and inappropriate use of the little available resources. Mosha (1990) reported that the existence of poor food situation in many households is a reflection of lack of income generating activities that can provide some cash to supplement household food produced. However, the focus group discussion suggested to combat poor rain fall distribution and excessive selling of crops as the major issues which cause food insecurity as follows:- (i) Poor rainfall distribution -To carry out environmental conservation measures, production of tolerant/drought resistant crops and planting of short duration varieties.(ii)Excessive selling of harvest -Diversify the income generating base including introduction of cash crops that are non-food crops, tight Government regulations on storage bins and selling excess produce and fostering production.

4.7 Food Security Coping Strategies

The Study results as shown in Table 11, indicate that (40.8%) of the total respondents mentioned selling harvested food as the major means of coping strategy followed by doing casual labor (33.3%). There are lesser proportions of 10.8% and 7.5% which showed that begging from relatives, reducing number of meals and exchanging and selling livestock was their means of coping strategies respectively. The coping strategies vary from one area to another but there is common pattern in response

Table 11: Distribution of respondents by coping strategies in Bagamoyo District
(n=120)

Category	Frequency	Percentage (%)
Coping strategies		
Selling harvested food	49	40.8
Reduce number of meals	9	7.5
Begging from relatives	13	10.8
Exchange and selling livestock	9	7.5
Casual laborer	40	33.3

A study done by Mhinte (2000) and Edward (2003) observed that remittances were mentioned to be important coping strategy for majority of rural households. Also a study done by Mvuna (2000) and Akyoo (2004) observed that other people involved in various IGAs such as selling charcoal and local brew. They also borrow from friends and relatives; reduce number of meals and practicing home gardening.

4.8 The Average Amount of Income Spent on Various Needs by the two Groups

The survey results as shown in Table 12 indicate the average amount of income that is spent on various items per month by the two groups. Average income used for food was 478 666 Tshs which differ significantly from 416 333 Tshs used by men. The amount spent on clothes was 112 650 Tshs by women respondents whereas men spent 116 00 Tshs which did not differ significantly from each other. On the other hand, 55 583 and 58, 916 Tshs were used for treatment by women respondents and men respectively and these differed significantly.

Table 12: T-test for average amount spent in various household needs by two groups in Bagamoyo District (n=120)

Item	Women respondents Amount of income spent (Thousands)	Men respondents Amount of income spent (Thousands)	t-value
Food	478 666	416 333	0.155ns
Clothes	112 650	116 000	0.057 ns
Medicine	55 583	58 916	0.401**
Kerosene	39 967	40 459	3.064**

ns = Non significant ** = significant at (p<0.05)

Similarly, 39 967 and 40 459 Tshs were used for buying kerosene by women respondents and men respectively and these also differed significantly. Thus, men spent significantly more on medicine and kerosene expenses as compared to women. However, there was statistical significance (p<0.05) for the amount spent on medicine and kerosene by the two groups. Even though women contribution was not superior on medicine and kerosene as done by men, with the small amount of income earned they contributed to the expenses substantially.

Findings of the study indicated that there is no statistical significance (p>0.05) between the income spent on food and clothes between women respondents and men. The mean income expenditure on food was much higher by women respondents though not significantly so as compared to the expenditure by men. This therefore implies eagerness of IGAs for women to play a greater role in to the household expenditure on food. It concurs with (Nkurlu, 2008) who found that women spent most of their income on household basic needs. T-test analysis revealed that, mean income expenditure on food was much higher by women respondents though not significantly so as compared to the expenditure by men.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

IGAs are major sources of livelihood for most of the households in the study area. Majority of women are involved in IGAs that are small scale in nature and earn low income that could be attributed to low or insufficient capital, lack of business education and group mobilization that would otherwise have enhanced their business performance. Most working premises are poor and informal - have hindered their access to loans.

Women's IGAs earn women income and increase the purchasing power of households in the study area whereby, women spend more of their income on food than men, who tend to spend more on non-food items. The reliability of women's income on food accessibility is an indication that women's IGAs have a role to play in improving household food security of the most rural poor. Thus promoting women's IGAs as a strategy for improving household food security in the study area is important.

Most respondents were youths, with primary level of education. Most women respondents are faced with social, economic and cultural set-backs by virtue of being married. Also cultural practices such as traditional youth initiation, forced and early marriages oppress and deny women of their access to and ownership of land, credit facilities and education. Women spent most of their time on household chores with poor cooking technologies, fetching water and taking care of children and husbands.

5.2 Recommendations

In light of the above conclusions, the following recommendations are useful to the development planners, policy makers and development agencies for improvement of economic activities undertaken by women in Bagamoyo District.

(i) Women's IGAs

Despite the fact that involvement of women in IGAs has enabled women to earn their own income, women are faced with a number of limitations that make them earn low income. Policies formulated should recognize the diversity and heterogeneity of women's IGAs and must seek to enable each type of IGAs to earn more income. This can be achieved through assurance of adequate access to credit facilities on reasonable terms for acquisition of necessary inputs. Alternatively the government and AID agencies should try to reach women so that they could have direct access to the information of any available assistance.

(ii) Credit facilities

The government and other development agencies should concentrate on improving economic resources which are important for improvement of IGAs identified in this study such as extension services, financial facilities, marketing systems, technical knowledge/skills and transport facilities.

The government needs to formulate policies that ensure that women are given priority in education and trainings on entrepreneur skills-this can be done by improving the existing development colleges and community training centers by amelioration of their curriculum and general environment of training institutions

(iii) Community level.

Community needs to identify and fight against customs and traditions which oppress and deny women of their access and ownership of land, credit facilities and education. The community, particularly men, should acknowledge women's contribution to the household as well to the national economy by respecting, appreciating, and according women rights and responsibilities.

(v) Time allocation

In order to maximize the potential effect of women's IGAs on household food security assistance should be provided by Government and non-governmental organizations to increase women productivity without sacrificing their additional time and household welfare. This will facilitate their involvement in IGAs and speeding up household chores. The feasibility of providing appropriate technologies such as improved stove, better food and water containers, handcarts and children's day care centers need to be explored.

(vi) Education

IGAs increase women's purchasing power and hence accessibility to food in the household. Therefore women should be encouraged to participate more in IGAs, Government should provide substantial efforts in business education. The purpose of this is to reach high level of income earned from IGAs among women so that more of their income spent is spent on food and that food is consumed is different members of the household.

5.3 Suggestions for Further Research

The present findings are a result of micro-survey done in four wards of Dunda, Msoga, Mapinga and Kerege in Bagamoyo District, Coast Region. The major weakness of the micro-studies is that they cannot represent the whole population. Therefore, there is a need for longitudinal studies on the subject in other parts of the Region to enable generalization of observations instead of micro and cross sectional studies that cannot represent the total population of the Coast Region.

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APPENDICES

Appendix 1: Operational Definitions.

Variables	Operational definition
Age	-Number of years of an individual
Sex	-Being a male or female
Marital status	-Married, single ,divorced/separated and widowed
Household size	-Number of people in household
Dependency	-the ratio of persons in the dependent Age- (under 15 and over 64years) to those in economically productive ages (15-64yrs) in a population.
Income	-net monetary values of products and services by all household members per year
Education	-highest level of formal education attained
Occupation	-major economic activity
Land size	-acreage under cultivation
Dependency ratio	-number of dependants in household.
Food security	-dietary energy consumed per adult equivalent per day.

Appendix 2: Structured Questionnaires Used for Research

SOKOINE UNIVERSITY OF AGRICULTURE

DEVELOPMENT STUDIES INSTITUTE, P.O.BOX 3024, MOROGORO

**THE ROLE OF WOMEN'S INCOME GENERATING ACTIVITIES TO
HOUSEHOLD FOOD SECURITY: BAGAMOYO DISTRICT, TANZANIA**

Date of interview..... Name of interviewer.....

1. Name of Division.....

2. Ward.....street/village.....

3. Questionnaire number.....

SECTION A.GENERAL INFORMATION

(Please tick where appropriate or fill in the blank space)

4. Age of respondent.....

5 Education level

(1) None

(2) Primary education

(3)Secondary school

(4)Post secondary education

(5) Adult education

6. Marital statuses

(1)Single

(2)Married

(3)Divorced/ Separated

(4) Widowed

7. Respondent status

(1) Head of household

(2) Not head of household

8 .Household size

9. Respondents age categories

below 30 , 30-45 years, 46-60 years , above 60 .

SECTION B: WOMEN’S INCOME GENERATING ACTIVITIES (tick where appropriate or fill the blank space)

10. What type of IGAs are you engaged in? (**Mention**)

- (a)
- (b)
- (c).....
- (d)
- (e) Others (specify).....

12. When did you start engaging yourself in IGAs?

- (a) Two years ago (2010)
- (b) Three years ago (2009)
- (c)Four years ago (2008)
- (d) Five years ago (2007)
- (e) Others (specify)

13. What is the major source of income in your household?

- (1) Salary/wage

(2) Farming/ gardening

(3) Small business

(4) husband

(5) Others (specify)

14. Who is the major income earner in the household?

(1) Myself

(2) Husband

(3) Both

(4) Others (specify).....

15. What is the amount of income generated from your IGAs (per month).

Amount (Tshs)

type of activity

(1) Below 50 000

(2) 50 000-100 000

(3) 100 000-200 000

(4) Above 200 000

16. Is there reliable market for the sales of your products?

(1) Yes

(2) No

17. Does the income generated cover basic needs?

(1) Yes

(2) No

18 If yes what are the basic needs covered by the income from IGAs?

(1)

(2)

- (3)
- (4)
- (5)
- (6)

SECTION C: CHARACTERISTICS OF INCOME GENERATING ACTIVITIES

(tick where appropriate or fill the blank space)

19. What is the major source of your initial capital?

- (1) Husband
- (2) Selling of your assets
- (3) Inheritance
- (4) Loan
- (5) Others (specify).....

20. How much was the initial capital (TSHs) used to start your IGAs.....

21. Which IGAs earns you more income? And how much (Tshs)per month?.....

22. Do you control the income earned from your IGAs?

- (1) Yes
- (2) No

23. If no who controls it and why.....(reason).....

24. Do you make any contribution to household food?

- (a) Yes
- (b) No

25. How much do you spend on food

(a) Daily.....

(b) Monthly.....

Premises:

26. Where do you operate your IGAs?

(a) Residential premises

(b) Non residential premises

27. Do you pay rent?

(a)Yes

(b)No

28.How much are you paying for rent?Tsh/day.../wk...../month.....

29 Why have you located your business at the place where it is now (**give reason/reasons**).....

.....
.....

30. Why did you engage yourself in such business?

(a) To earn your own income to become less dependent on your husband

(b) To assist your husband

(c)Your husband's less responsibility

(d) Others (specify)

31. Where did you get business skills before starting IGAs.....

.....

32. What were the main difficulties you faced when establishing your business (es)
?.....

33. What difficulties do you face at present.....?

SECTION D: HOUSEHOLD EXPENDITURE ON FOOD

34. What is your estimated expenditure v of the household income per week?

Expenditure item	Amount spent (Tshs/week	
	Non-actors	Actors
Paying house rent
School fees
Taxes
Clothes
Kerosene
Electricity

35. Is your household food secure throughout the year?

(1) Yes

(2) No

36. If no what are the causes of food insecurity at your household

(1)

(2).....

(3).....

(4).....

(5).....

37. Have you have had food shortage for the past 5-10 years?

(1) Yes

(2) No

38. How can you describe the experience of your household with regard to its access to food?

(1) Very good

(2) Good

(3) Fair

(4) Bad

(5) Very bad

39. How many times per day do you take food?

(1) Once a day

(2) Twice a day

(3) Thrice a day

40. During food deficit which of the following ways has your household used to get food?

(1) Food gift

(2) Food purchase on credit

(3) Buying food

(4) Begging from Friends

(5) Begging from Relatives

(6) Borrowing from Friends

(7) Exchange livestock with Food

(8) Selling livestock

41. Is there any other ways you know that people in this village do in order to suffice their food need?

(1) Yes

(2) No

42. If yes, mention the ways commonly used at your village.....

43. What is the estimated expenditure of the household income/wk?

Expenditure item	Amount spent (Tshs/week)
-------------------------	---------------------------------

Paying house rent	
-------------------------	--

School fees	
-------------------	--

Clothes	
---------------	--

Kerosene	
----------------	--

Food	
------------	--

Medicine	
----------------	--

Training:

44. Have you received any training in operating your IGAs?

(1) Yes

(2) No

45. If yes, please tell me

(a) Where.....

(b) For how long.....

(c) How often.....

46. If no how did you acquire skills of managing or operating your IGAs?

.....

THANK YOU FOR YOUR COOPERATION

Appendix 3: Checklist for key informants

General information

Village.....

Ward.....

Division.....

District.....

1. What do you understand by the term food security?
2. Does the village have food insecurity problems?
3. If yes, which period of the year is your village mostly affected by severe food shortage?
4. Under normal circumstances how many meals do households take per day in your village?
5. What are the causes of food shortage in your village?
6. What are the coping strategies taken by households to cope with the situation?
7. What are your suggestions on how to cope with the problem?
8. Is there any person who had died of hunger? When was it?
9. What are the types of activities undertaken in your village?
10. How much of the income from IGAs is used for household food security?
11. What are your opinions on the effect of IGAs on food security?
12. What do you consider to be important means of improving food security?

THANK YOU FOR YOUR COOPERATION

Appendix 4: Checklist For focus group discussion (FGD)

General Information

Village.....

Ward.....

Division.....

District.....

1. What do you understand by the term food security?
2. Does the village have food insecurity problems?
3. If yes, which period of the year is your village mostly affected by severe food shortage?
4. Under normal circumstances how many meals do households take per day in your village?
5. What are the causes of food shortage in your village?
6. What are the coping strategies taken by households to cope with the situation?
7. What are your suggestions on how to cope with the problem?
8. Is there any person who had died of hunger? When was it?
9. What are the types of activities undertaken in your village?
10. How much of the income from IGAs is used for household food security?
11. What are your opinions on the effect of IGAs on food security?
12. What do you consider to be important means of improving food security?

THANK YOU FOR YOUR COOPERATION