

# **CONTRIBUTION OF SOLID WASTE MANAGEMENT ENTERPRISES TOWARDS WOMEN'S INCOME AT HOUSEHOLD LEVEL: A CASE OF MOROGORO MUNICIPALITY, TANZANIA**

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## **Abstract**

*This study presents findings on contribution of Solid Waste Management Enterprises (SWMEs) towards women's income at household's level in Morogoro Municipality. Generally the study assessed contribution of SWMEs towards women's income at household level. Cross sectional research design was adopted. Structured questionnaires with open and close ended questions were used to collect primary information from a sample size of ninety (90) respondents. Data analysis was done using Statistical Package for Social Science (SPSS) computer program. Descriptive Statistics i.e. means, frequencies and percentage were computed. Analysis of Variance (ANOVA) using F-test was used to find significance differences of women's income expenditure pattern among three SWMEs at 5% levels. House hold expenditure pattern was statistically significant different in food but not statistically significant different in shelter and clothes within SWMEs at 5% levels. Access to credit and training were among major challenges for development of economic activities undertaken by women in the study area. Development agencies were recommended to recognize Income Generating Activities (IGAs) undertaken by women in rural and urban areas hence, to formulate policy that provides priorities for women to enhance accessing economic resources.*

*Keywords: empowerment concept, Ownership concept, Participation concept, Small waste management enterprises.*

## INTRODUCTION

Solid wastes are generated from various sources and of different categories as follows: Household waste, Commercial waste, Building materials waste, Car wreck, worn out component and industrial wastes. Solid waste management problems have brought environmental degradation to an extent that most efforts are made by City Authorities to ensure that garbage's, roadsides littered with refuse are well managed (Muller, 1998). Growing concern manifested in Millennium Development Goals (MDGs) 2015 and Tanzania vision 2025 is calling to address Solid Waste Management and Income Generating Activities so as to create jobs for low income men and women by 2015.

Since adequate collection and disposal of wastes are beyond the resources of Municipal Authorities, Community Based Organizations (CBOs) and Non-Governmental Organizations (NGOs) emerged as an alternative for provision of solid waste management as well as creating jobs for low income men and women while liquid wastes management are monitored by Urban Water Supply Authorities (UWSA) (Majani, 2000; Zurburgg, 2000). The limits of welfare-oriented response to the growing crisis of solid waste management and job creation are well recognized thus, many development agencies are increasing their emphasis on assisting women to secure income through their own efforts (World Bank, 2003).

In the Sub Saharan African countries including Tanzania, women predominate in the urban informal and formal economy such as Solid Waste Management Enterprises where they pursue survivalist activities. This targets those vulnerable groups in society who find themselves marginalized i.e. the urban poor especially women and young people (Muller, 1998). UN-habitats gender mainstreaming unit strives to broaden gender equality and women's rights into all of UN- habitats activities by supporting and strengthening gender awareness. Like agency's partners, it works with local authorities, Non-Governmental Organizations, women groups, governments and Municipalities to promote better opportunities for those living on the margins of society (UNCHS, 2000c).

Greater involvement of women in urban economy helps to ensure women's interests and needs as citizens, contributing to and using cities. Lack of basic services and infrastructure affects women most fundamentally in cities because women deals with water, sanitation, fuel and waste management due to their domestic responsibilities (Moser, 1992; Beal, 1997). Although, the need to recognize economic capacity and potential of women has been a concern for local, national and international organizations, the problem of women involvement in solid waste management is gender stereotype caused by the way people look down the job. Gender stereotype resulted economic contribution of women at household level remained largely unacknowledged, documented and unmeasured (Eric, 2003; Arnold, 2007; Eziy, 2009).

In rural and urban areas of Tanzania, there are an increase 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 major of women is small as compared to the output from economic activities undertaken by men. This may be due to either scarcity of resources such as access to credit, land ownership and inheritance, access to education extension services, entrepreneurship skills or access to markets and their minimal.

Many social and economic studies have shown that, the essential factors for economic resources such as land ownership and inheritance, access to credit and market facilities, extension services and entrepreneurship skills are in favor of men than women (UDEEC, 2002; TGNP, 2004). However, there is lack of adequate information on how women are operating their IGAs and their contribution to household income. This study, therefore, intends to provide some information to fill the existing knowledge gap by examining the type of IGAs under taken by women, its operations and eventually the contribution to the household income using a case of Morogoro Municipality. Therefore, the need to research, measure, document and acknowledge contribution of women's income at household is significant.

The overall objective of the study was to assess contribution of Solid Waste Management Enterprises (SWMEs) towards women's income at household's level in Morogoro Municipality.

### **Hypothesis**

Null Hypothesis:  $\mu_0 = \mu_1$ , women's household's expenditure pattern at family level is not significant different within SWMEs.

Alternative Hypothesis:  $\mu_0 \neq \mu_1$  women's household's expenditure pattern at family level is significant different within SWMEs.

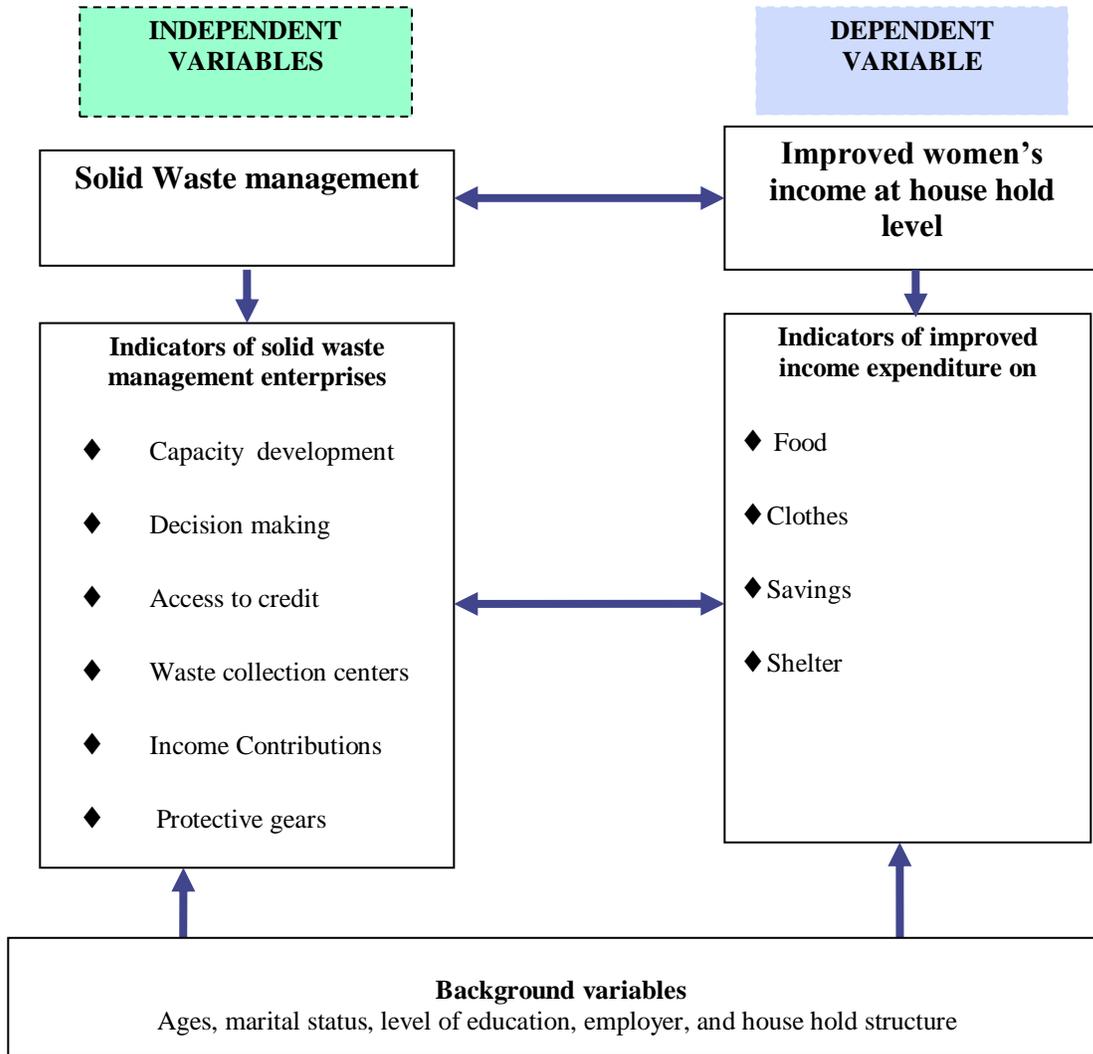
## **LITERATURE REVIEW**

### **The Conceptual Framework**

The conceptual frame work binds facts together and provides guidance towards collection of appropriate data (Katani, 1999). The conceptual framework has been established to show the relationship between research variable indicators. Various socio economic activities including Income Generating Activities depend on the livelihood options at people's disposal. Therefore, the presence of Solid Waste Management Enterprises enabled women who access the service to increase their options of utilizing the assets to improve their income as indicated in conceptual framework Fig. 1 and definition of variable indicators shown in Table 1. Independent

variable and indicators are interdependent to dependent variable indicators. The background characteristics of respondents gave a vertical relationship to Independent variable indicators and dependent variable indicators.

Figure 1: Conceptual Frame Work



**KEY:**

- 1 Interdependent relationship of variables
- 2 Relationship between variables and indicators.
- 3 Relationship between back ground variable and indicators

Table 1: Definition of variables indicators

Variable indicator	Operational definitions	Indicators Unit	Level of measurement
Age	Total number of years in Life of respondents	Number of years since a person was born	Ratio
Education level	Highest level of Schooling ,colleges attained by respondents	Primary, secondary, Others	Ratio
Marital status	Current status of marriage for respondents	Married/widow/divorcee/ Separated, single	Nominal
Household size	Social unit of the family including father, mother children and other family members	Number of household members	Ratio
Capacity development	Training provided to an individual Knowledge and skills	Number of training attended by an individual -Type of skills and knowledge a person have	Ratio/interval
Financial Capital	Saving and credit services	Amount of money borrowed and paid back	Ratio
Social Capital	Solid waste management employee	Terms of contract	Nominal/ordinal
Decision making Power	Involvement in decisions of matters related to family	Frequency on how women are involved in family discussions.	Ordinal
Food	Number of meals taken per day	Number of meals taken per day	Ratio
Clothes	Types of clothes	New, used	Ratio/Ordinal

### Theories, Concepts and Strategies Relevant to the Study

This section reviews literature on different concepts, theories, strategies and initiatives of Solid Waste Management Enterprises (SWMEs) and women's income. For the purpose of this study; Income- Generating Activities' (IGAs) have been considered as those initiatives that affect the economic aspects of women's lives through the use of economic tools such as credit and job opportunities (Hurley, 1991; Nelson, 1979). Solid Waste Management Enterprises (SWMEs) are those enterprises dealing with collection, transport, processing, recycling, disposal and monitoring of waste materials produced by human activities so as to reduce environment ill effect on health, and recover resources (UNCHS , 2000f ; 2006). Liquid Waste Management

Enterprises refers to those enterprises concerned in controlling of liquid resulted from human settlement processes (Muller, 1998; UNCHS, 2006 -07).

### **Theories**

Since 1970s the issue of women participation in development activities has been put into consideration, different theories have been adopted to support women empowerment through participation. Theories reviewed here are; Women in Development (WID) Gender and Development (GAD), Institutional theory and Collaborative planning theory (UNCHS, 2000c).

#### *Women in Development Theory (Wid)*

According to (Magembe, 2004) it is portrayed in this theory that women have been left behind in development issues. For this reason they have to be integrated in decision-making processes so as to enjoy the benefits they deserve in general. This theory is based much on women roles related to domestic activities as it agrees with the position in which women are and the role they play within the society. The theory seeks to help women deal and cope with situations they are in, by giving them techniques or aids in performing better their gender roles. In fact this theory does not address issue of women empowerment as for it, women seems to continue lacking skills and remain unable to possess essential resources and being able to participate in decision making in resources control. The theory has some elements or variables which when applied can empower women on how to own skills, resource control, decision making, and participation. These variables if well utilized enable women expand their resource base and hence empowerment (UNCHS, 2000e).

#### *Gender and Development (Gad) Theory*

This theory argues that women are always involved in development but from unequal position with men and being not acknowledged (Magembe, 2004). The arguments towards obstruction of women advancement is much related to social structures and processes that put male in a certain position of superiority at the same time subordinate female. As a result of GAD theory notes that men influence women lives, the issue of women empowerment calls for involvement of both men and women. (Guijt *et al*, 1998) cited in Magembe (2004) argued that gender equity can only be achieved when gender relations is addressed and put into practice. This theory is likely to support women empowerment as it recognizes the position of women and the way women have been influenced by their counterparts in different ways like being unskilled, deprived of resource ownership and lack of women participation in decision making within the community from the family level.

GAD theory encourages gender planning to be applied to all development operations and projects, and allows women to be factored into economic and development policy. The GAD approach utilizes gender analysis, which is used as a tool for analyzing the specific nature of gender differences by asking crucial questions such as who does what, where, when, how often, with what resources and returns, and who controls what. Such questions enable an assessment of gender differentiations in activities, resource ownership, use, and control of resource.

From the above argument GAD supports women empowerment in different ways including at personal level. It is concerned with women self confidence and sense of personal strength. It is also concerned with building women's capacity to make decision on essential resources and how they are able to control these resources and participate in economic development. The theory noted that there are some factors which can be used to determine the level of empowerment i.e. social structure (local norms and procedures), gender equity, capacity building, and participation in gender planning (TGNP, 2004; Tibaijuka, 1996; Tzantos, 1999).

### *Institutional Theory*

This theory includes individual, Non-Governmental Organizations and Government Departments rules in use (working rules and procedures), norms expressed in repeatedly and relationship between individuals in an organization (Chambers, 1997) cited in Majani (2000).

Institutionalization refers to the process through which organization and procedures acquire value and stability in society in respect of human interaction (Fekadel, 1994 cited in Msipu, 2004). This theory can be related to gender concept in urban Solid Waste Management Enterprises (SWMEs). Gaining stability with respect to resource and property allocation and registration in urban settlements includes unplanned settlements. This study tries to relate the institutions concerned like; public and individual, as well as private institutions from local level and the way they support gender equity in resource, and secure their property rights and ownership. The main focus is to assess the way these institutions empowers women on income improvement, and how women are involved in different decision-making levels on the process of formalizing Solid Waste Management Enterprises (SWMEs).

The questions emerging from this study is that, which institutions were involved in solid waste management formalization process? What role did they play to facilitate women property rights? How did these institutions encourage gender, particularly women participation in decision-making in the whole process of registering property? What policy/legislation was put in consideration to empower women in property rights? (Tumple, 2006; UTR, 2002).

## Definition of Concepts and Strategies

### **Ownership Concept**

Ownership concept as indicated in Fig. 1 is a complex concept, when it comes to Solid Waste Management Enterprises (SWMEs). According to western feudal concept of Roman law means a bundle of rights to own, control, use, abuse and dispose of waste products. In relation to capitalists, ownership was described as a bundle of rights on a certain interests in land which are defined as secure, guaranteed and most important of all can be transferred or sold at the market at the will of the owner (Shivji, 1998). Ownership is a state or fact of exclusive possession or control of property (Beato *et al*, 2003 cited by Kabange, 2007). Ownership is of significant in determining the rules governing rights and responsibilities of the people with regard to the common property. With clear definition of rights, responsibilities and benefits people tend to develop the feeling that they own the property. Property can be accumulated wealth such as object, land, real estate and employment. There are different levels of property ownerships existing in development activities. The major types of ownership include public ownership, private ownership, public-private ownership; this is a combination of public and private ownership of properties, community ownership, household ownership and individual ownership.

### **Participation Concept**

Participation as defined by (Wakuru, 2004; Malele, 2004) is the voluntary and democratic involvement of beneficiaries in contributing to a future development and management on the same scale of the matter concerned. Participation is considered as the condition where the society as a whole share in common, and make decisions with regard to the common good, interacting with each other, face aggregation of individual who share a number of values important to all. There are seven types of participation as indicated in Table 2.

Table 2: Participation levels

Typology	Characteristics
Passive participation	People participate by being told what is going to happen or has already happened. It is a unilateral announcement by an administration of project management without listening to people's responses.
Participation in information giving	People participate by answering questions posed by extractive researchers using questionnaire surveys or similar approaches. People do not have the opportunity to influence proceedings, and research findings are neither shared nor checked for accuracy.

Participation by consultation	People participate by being consulted or answering questions, and external people listen to their views. These external professionals define both problems and solutions, and may modify them in the light of people's responses. Such a consultative process does not concede any share in decision-making and professionals are under no obligation to take on board people's views.
Participation for material incentives	People participate by providing resources, such as labor, in return for food, cash and other material incentives. However, the people have no stake in prolonging activities when the incentives end.
Functional participation	People participate by forming groups to meet predetermined objectives related to the project. Such involvement does not tend to be at early stages of project cycles or planning, but rather after major decisions have already been made. These institutions tend to be dependent on external initiators and facilitators, but may become self-dependent.
Interactive participation	People participate in joint analysis, which leads to action plans and the formation of new local institutions or the strengthening of existing ones. Participation is seen as a right, and not just a means to achieve project goals. These groups take control over local decisions, and so people have a stake in maintaining structures.
Self-mobilization	People participate by taking initiatives independent of external institutions to change systems. They develop contacts with external institutions for resources and technical advice they need, but retain control over how resources are used.

Source: (Pretty, 1994; 1996; Pimbert and Pretty, 1995) in Kinyashi (2006)

In this study, participation has been considered as the major aspect to determine how women are considered and empowered in the process of Solid Waste Management Enterprise formalization. Participation is seen as a right, and not just a means to achieve project goals. Empowerment encourages women interaction in designing, planning and decision making. Women empowerment depended on the level of their participation in solid waste management and how they participated in decision making on income expenditure at household level.

### ***Empowerment Concept***

Empowerment focuses on enabling the group or an individual, particularly disadvantaged group to engage in intelligent and shared decision-making. Empowerment can be defined as “the expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them” or the degree of control over resources i.e. material, human and intellectual resources within a given society (Kinyashi, 2006). Empowerment is a process which changes a person from a weak state into a better one (Friendman and John, 1996).

## **Waste Management in Africa**

In the Sub Saharan African countries women predominate in the urban informal and formal economy such as Solid Waste Management Enterprises, where they pursue survivalist activities. The economic contributions of women have remained largely unacknowledged and unmeasured (Renukamma, 2007). Greater involvement of women in urban economy helped to ensure women's interests and needs as citizens, contributing to and using cities. The need to recognize the economic capacity and potential of women has been a concern for local, national and international organizations. On the other hand failure to support women's contributions can negatively affect the urban economy as a whole (Muller, 1998). Lack of basic services and infrastructure affects women most fundamentally in cities because they deal with water, sanitation, fuel and waste management due to their domestic responsibilities (Moser, 1992; Beall, 1997).

## **Solid Waste Collection in Cities and Municipality**

Solid waste collection service at household level is divided into two types: door-to-door and transfer point collections (Kassim, 2005). In high-income and planned areas the collection is door-to-door, where services are provided by private organizations. This is better collection service, because it is easier than in other poor and unplanned areas. The main reason for this is due to proper waste storage, payment habit for the service and accessibility for the collection trucks. The households use standard containers, durable with fitted lids, able to prevent odor and leach flow from the wastes (Kyessi, 2002). In medium and low- income (unplanned) areas, the available service is only transferring point collections provided by City or town Council (Kassim, 2005). There is a subsidized fee for waste collection for the former whereas; the latter is supposed to receive free service. In most cases, wastes in low income areas are exposed to rain, sun and wind as it is rarely collected. This results in littering and unhygienic conditions, which is dangerous to public health and causes environmental pollution (Kassim, 2005). Burning and burying solid waste at home is still practiced in poor areas. It is common to see solid wastes in open drains or on the ground near the houses in poor neighborhood (Kyessi, 2002).

Local government has initiated slum upgrading initiatives, by improving few infrastructures, and provision of temporary solid waste collection containers. It has established a pilot system of formal partnerships, with local service providers to carry out solid-waste collection from unplanned residents to the town collection trucks (UNDP, 1994; ILO 2004). Despite these efforts, there is very little cultural adjustment by the residents to adapt the provided services. This is due to lack of commitment of individuals There have been repeated calls for shift from government, to governance approach in developing world. Government in

particular has been emphasized Public Private Partnership (PPP)<sup>i</sup> regarded as a mechanism for describing cooperative ventures between state and private business (Muller, 1998). Currently, it enjoys a remarkable claim in both official and scholarly circles. Public private partnerships (PPP) could be the public answer to the rise of enterprises within the society. Some scholars argue that; PPP would provide higher quality goods and services at low cost and the government sector of public providers would shrink accordingly. Conversely, others maintain that the mark of partnership is cooperation and not competition. The call of governance, cooperation and partnerships however does not directly lead to major shifts in day to day decision making. This is because the private sector may be unwilling to supply low-cost services to low income areas of the city as a fear of profit loss. At the same time practice shows that existing governmental organization are not yet capable of developing such partnerships scheme in practice. Government strategies such as PPP call for exchange of information between actors and willingness to look for solution on mutual basis (ILO, 2004).

## **METHODOLOGY**

### **Study Location**

Morogoro Municipality is about 195 kilometers to the west of Dar es Salaam and is situated on the lower slopes of Uluguru Mountains whose peak is about 1600 feet above sea level. It lies at the crossings of longitudes 37.0 east of the Greenwich Meridian and Latitude 4.49 South of Equator. Morogoro Municipality has a total land area of 531 sq. km. This land coverage constitutes 0.4% of the total regional area. The major physical features include the famous Uluguru Mountains, which lie in the South Eastern part and Mindu mountains, which lie in the Western part.

There are three main rivers with several tributaries, which form a number of alluvial flood plains. These rivers are the Morogoro, Kilakala, and Bigwa. Other sources of water are the Mindu Dam' which was built in the late 1980s to serve for the industrial activities as well as domestic purposes. Morogoro Municipal ethnic groups are Waluguru and mixed groups.

Morogoro Municipality residents have mixed economic activities including civil workers, farmers, business enterprises such as solid waste management and industries of various categories. According to population and Housing census of 2002, the population of the Municipality was 227 921 people. The growth rate in the Municipality is 4.7% per annum and the average income of a person per year is Tsh 185 000 (World Bank, 2004).

The projections show that the current population for 2009 is 294 467 on the ratio of women (149 900) and men (147 547). Ten wards with populations of 182 221 were selected for this study as indicated in Table 3. The study location was selected so as to minimize financial

and time resources. Female respondents were favored for this study so as to meet the requirements of the identified research gap where contribution of women's income to their house hold needed to be acknowledged from family level.

Table 3: The Current population as per ward in Morogoro Municipality

Wards	Population		Total
	Number of male	Number of female	
Uwanja wa Ndege	7 146	7 470	14 616
Mji Mpya	6 557	6 770	13 327
Sultan Area	2 022	1 994	4 016
Mazimbu	34 819	34 904	69 723
Kichangani	8 664	8 821	17 485
Kilakala	8 574	9 012	17 586
Boma	5 563	5 215	10 778
Mbuyuni	5 430	5 517	10 947
Mji Mkuu	4 008	4 032	8 040
Kihonda	8 303	7 390	15 693
<b>Grand Total</b>	<b>91 086</b>	<b>91 125</b>	<b>182 211</b>

Source: Region and District Projection volume XII (2009).

### Research Design

Cross sectional research design was used in this study. It enabled data collection at a single point time without repetitions from a sample selected to represent some large population. The design has been recommended by (Babbie, 1990; Krishnaswami, 2000). Data collected was used for the purpose of simple statistical description, interpretation and also make it possible for determination of relationship between variables focused at the time of survey. This method was considered suitable since time and recourses were limited.

### Sampling and Data collection

The study involved purposive sampling method during ward and enterprises selections and quota criteria was used to the sampling process of respondents (Kothari, 2006). The study location was selected so as to minimize financial and time resources. The population for study was women participating in SWMEs. Respondents were favored for this study so as to meet the requirements of the identified research gap whereas, contribution of women's income to their house hold needed to be measured, documented and acknowledged. Ninety female respondents were selected on quota criteria to cover respondents from Solid Waste Management Enterprises in Morogoro Municipality as: KIKUNDI KAZI (CBO) cleanliness groups

from ten wards ---30 respondents; KUCHE cleanliness group Solomon Mahlangu and SUA Main campus--30 respondents; Municipality cleanliness group----30 respondents; Group leaders-3. Preliminary survey was done in order to be familiar with the selected areas. Pre-test study was done to check reliability and validity of instrument to fit to the selected sample in the study area. During this conduct of preliminary survey a permit was obtained from Morogoro Municipality Office. This exercise started early in March 2010 and was completed in the middle of the March, 2010.

Experienced researchers from Sokoine University of Agriculture were involved in preliminary testing draft of data collection instrument for cross-check. The aim was to check on missing items in the questionnaire and improve its validity. Validity here means the ability to capture the intended information. The views and suggestions were based on clarity, specificity of the questions and relationships with regards to objectives of the study. Under field conditions nine women nine undertaking SWMEs activities in Morogoro Municipality were involved in pre-testing of questionnaires and were automatically excluded from respondents sample used to collect the primary data. The testing of the questionnaires provided a useful opportunity to improve the efficiency of the instrument as well as estimating the interviewing time.

Structured and unstructured interview were used to obtain primary data whereby face -to -face interviews were administered to the selected respondents, through interview using both closed-ended and open-ended questionnaires (Appendix1). Open-ended questionnaires were used to tap different information from respondents. Closed-ended questionnaires required respondents to choose the right answer given in the questionnaire. The techniques used to acquire information included, participant observation, group discussion and questionnaire interview. The interview was conducted through translated *Kiswahili* questionnaires for better communication and understandings.

The interview involved Ninety (n=90) women working with Solid Waste Management Enterprises i.e. KUCHE cleanliness group (n= 30), MUNICIPALTY cleanliness group (n= 30) and KIKUNDI KAZI (CBOs) cleanliness group (n= 30). This activity started in early April/ 2010 and ended in early June/2010. Primary data collection focused to explore information on women's demographic characteristics, three types of SWMEs undertaken by women in Morogoro Municipality. Contribution of Solid Waste Management Enterprises (SWMEs) towards women's income at family level and thus improves their well-being. Primary data also investigated participation of women to Solid Waste Management Enterprises (SWMEs) and challenges they are facing. Furthermore primary data was used to identify women's opinion towards improving their life at family level. Key information through focus group discussion involved three members and group leaders each from one Solid Waste Management

Enterprises (SWMEs) shared group discussion. The process examined the context in a social system. Contribution of women's income from Solid Waste Management Enterprises (SWMEs) was assessed at family level.

Secondary data were obtained from relevant document published and unpublished such as from KUCHE, internet, SNAL, and SUMO. Secondary data collection reviewed relevant documented such as publications journals both published and unpublished to get an overview on what has been done in relation to the interest of the study gaps.

### **Data processing and Analytical approach**

Data collected through questionnaires were compiled, coded and entered into the SPSS software to generate descriptive statistics like frequencies, percentage and frequency tables. Further Data analysis and results representation were done using SPSS software. In the analysis, households from three cleanliness groups were selected for the purpose of assessing the contribution of SWMEs towards women's income and to determine contribution of women's income expenditure pattern at family level. Analysis of variance (ANOVA) was used to test the statistical significant differences in income expenditure pattern of three SWMEs groups.

The statistics test, F-test was used to test significant differences on women's income expenditure pattern between groups of Solid Waste Management Enterprises (SWMEs) at 5% levels. If the value is greater than 0.05 it imply that the difference in mean is not significant. However, if the value is less than 0.05 imply that the difference in mean is significant.

## **EMPIRICAL RESULTS AND DISCUSSION**

### **Demographic Characteristics of Women Participating in (SWMEs)**

With reference to table 4 the demographic characteristics of women included age, marital status house hold size and level of education. These variables were analyzed and discussed in sub sections as follows:

#### **Age**

According to (URT, 2005 b); age is an important demographic variable and is a primary basis of demographic classification in Virtual statistics, Censuses and surveys. As indicated in Table 4 the selected sample in the study area comprises of ninety women who were involved in Solid Waste Management Enterprises (SWMEs). From the study findings age groups of women participating in Income Generating Activities (IGAs) ranged from 18 - 64 years old. According to the research findings, (13.3%) of the respondents were aged between 25 - 34 years. The study findings show that (85.6%) of respondents were aged between 35 - 64 years old. It was evident

from age comparison of respondents by enterprises that the maximum age was 64 years while the minimum age was 18 years. Thus, the findings imply that majority of respondents in IGAs fall between 35 to 64 years old.

These findings are not consistent with the results from (ILO, 2003) that covered Dar-es-salaam, Arusha and Zanzibar. In their study it was revealed that, about two thirds (70%) of entrepreneurs in IGAs were aged between 31-50 years old. Also these findings are not supported by (TLFS, 2001) documents that youth group concentrated more in a formal and informal low- income sectors as compared to the older ones. The possible reasons for youth group to concentrate more in a formal and informal low- income sectors is due to the fact that, most of them after completing their primary education they are not selected to join secondary education.

From the hard circumstances, youths find themselves in a formal and informal low paying economic activity as their survival strategy. The reason for older women to concentrate in a formal and informal low- income economic activities is because they have responsibility related to childrearing and hence have strong force to work in low-income sectors. These elders are lacking entrepreneurship skills thus; they are limited to accesses high paying economic activities. Most of them migrated to urban areas in course of marriage. Due to structural adjustment their husband lost jobs therefore women are forced to subsidize to family income expenditure. According to (Wheelock, 1996); House hold has been identified as a very important economic institution. It links significant economic activities that are production and distribution activities through the members.

### ***Sex of head of Household***

The study findings as indicated in Table 4 can be supported by nature of the house hold size of respondents ranged from 4 -5 being (74.4 %), >5 was (14.4%) and < 4 was (11 .2%) respectively. The study findings show that Female house head (FHH) seemed to be (21.2%) while Male house head (MHH) was (78.8 %). This vivid information illustrates how serious FHH are forced to engage in low income economic activities to enable survival of their family. House hold consists of different structures i.e. they may be of single - person household or made of a family with one or two parents, or a group of unrelated people. Households have different social and economic characteristics such as class, race and gender (UDEEC, 2002). In most cases it is people within the household who make decision about whether to work in the labor markets or to do unpaid work at home or elsewhere.

Table 4. Analysis of Background Demographic Characteristics of Women (N=90)

Variable	Frequencies	Percent
<b>Age</b>		
18-24	1	1.1
25-34	12	13.3
35-64	77	85.6
Total	90	100
<b>Marital status</b>		
Single	27	30.0
Married	46	51.1
Divorced	11	12.2
Widow	6	6.7
Total	90	100
<b>Education level</b>		
Non	8	8.9
Primary	73	81.1
Secondary	9	10.0
Total	90	100
<b>Household size</b>		
<4	10	11.2
4-5	67	74.4
>5	13	14.4
Total	90	100
<b>Sex of head of household</b>		
Male (MHH)	71	78.8
Female (FHH)	19	21.2
Total	90	100

### ***Marital status of the respondents***

According to (ILSF, 2000-01; URT, 2005a) women account for 50.6% of the informal labor force in Tanzania, but predominates in agriculture and petty trading. The findings of this study show that, for the case of marital status of women who participated in IGAs in the Morogoro Municipality 51.1% was married whereas, 30% were single, and 12.2% divorced, 6.7% widowed. This revealed that most of the respondents interviewed in Morogoro Municipality SWMEs, (70%) of them were married at some point in their life. The higher number of married women in IGAs tends to be consistent with results given by (Rutashobya and Nchimbi, 1996). However, these findings seemed to be slightly, higher than those reported by National BUREAU Statistics and Tanzania Demographic and Health Survey (2005b). According to them, about (66%) of women in low-income economic activities were married. The reason for married

women to participate more in low-income economic activities may be due to push factors such as husband's low wages that cannot manage to meet all of the basic needs and the impacts of the Structured Adjustment Program (Rutashobya and Nchimbi, 1996). The study shows that household size by enterprise as indicated in Table 4 is another push factor for women to engage in Solid Waste Management Enterprises.

### **Education**

Education is always valued as the means of liberation from ignorance and enables one to perform effectively the economic activities. The respondents were asked to state their level of education which ranged from illiteracy to primary school and secondary school. It was then observed that majority (81.1%) of the respondents had attained primary education, about (10%) secondary education and (8.9%) of the respondents has never attended formal education.

The results from the study as indicated in Table 4 show that, majority of women who participated in solid waste management activities had low level of education. Having low level of education, most women are lacking access to the economic resources such as credit facilities, training and decision making process. Similar observation was made by (Kayunze *et al* 2000) who argued that credit should be given to sufficient education borrowers. In addition, (Kuhn *et al*, 2000) reported that combination of education and credit can put women in a stronger position to ensure equal access to food, schooling and medical care. The findings above are supported by (Meena, 2005) who identified that education policies and educational plans have limited the ability of women to fully utilize their intellectual energies in management of their economies.

### **Household size**

Households are very important agents in the circular flow process of the national economy (Wheelock, 1996). Comparison of respondent's household size by enterprises revealed in the study findings as indicated in Table 5.

It is noted that KUCHE SWMEs had the highest value of seven members compared to Municipal and Kikundi kazi SWMEs which has six members. These results are in agreement with (TGNP, 2003) which reported that, decision about how much to spend in a family are made by members of the house hold; this involves decision about who is going to get what and this is about distribution of the resources.

Table 4: Comparison of household size by Enterprises (n=90)

Statistic	Kuche	Municipal	Kikundi kazi
Minimum	2.00	2.00	2.00
Maximum	7.00	6.00	6.00
Mean	3.9	3.80	3.00
Std	1.30	1.18	1.22

## Discussion of Specific Objectives

### *Analysis of SWMEs undertaken by women in Morogoro Municipality*

In this context the researcher sought information on SWMEs which are found in the study area. The presentation is divided into four major sections that cover four research objectives that guided the study in the data collection process. The first section examines the enterprises which deal with SWMES. The last section examines access the contribution of SWMES. Questionnaires, documentary reviews and interviews constituted the major methods for collecting data that is being presented.

According to the research findings see Table 6; three groups of SWMEs were identified in Morogoro Municipality. The SWMEs were capable in accommodating more than 200 women who collect solid waste and send to the skip bucket around town center. Ninety women were interviewed whereby (83.3 %) had group membership less than 4 years, (16.7 %) of them had group membership of not exceeding five years, The low-group membership is contributed by the nature of work contracts whereby women are temporarily employed in collection of solid waste and send to the skip bucket. The respondents claimed that, the work is tedious and at the same time they received low monthly income.

Table 5: Analysis of respondents by years of group membership (n=90)

Variable	Frequency	Percentage
<b>Years of membership</b>		
<4	75	83.3
4-5	15	16.7
<b>Total</b>	<b>90</b>	<b>100</b>

### *Contribution of SWMEs towards women's income at households level*

In this context the researcher sought information on Contribution of SWMEs towards women's income at household's level. Distribution of respondents by income from Solid Waste Management Enterprises per month as analyzed and reported in Table 7.

### **Women's Income Patterns within the Household Level**

The study findings as indicated in Table 7 show that (77.8%) Women's income from Solid Waste Management Enterprises has contributed about Tsh 50 000 -100 000 per month in women's household. However, (22.2%) contributed Tsh 45000-50000 per month.

Table 6: Analysis of women's income from Solid Waste Management Enterprises (n =90)

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Income per month ( Tsh)</b>		
45 000- 50 000	20	22.2
50 000-100 000	70	77.8
<b>Total</b>	<b>90</b>	<b>100</b>

### **Contribution of women's income at households' expenditure within three SWMEs**

The findings from Morogoro Municipality as indicated in Table 8 show that women's house hold income expenditure for food shelters and clothes among SWMEs were tested at 0.05 levels. Furthermore, the study findings enabled the researcher to relate independent variables in SWMEs affecting the dependent variables since women's improved income enabled to support food purchases. This was expressed by respondents as they were able to give their views in a group discussion. This was extremely useful technique concerning research objective whereby the researcher wanted to asses' contribution of SWMEs towards women's income at household level in Morogoro Municipality.

Table 7: Analysis to compare household's (Tsh) monthly income expenditure on; food, clothes and shelter by Enterprise (n=90)

<b>Statistic Analysis</b>	<b>Kuche</b>	<b>Municipal</b>	<b>Kikundi kazi</b>
<b>Variables Food</b>			
Minimum	10 0 000	120 000	12 0000
Maximum	540 000	340 000	15 0000
Mean	121 000	97 233	89 233
Std	8 841.06	5 912.00	3621.38
<b>Shelter</b>			
Minimum	10 000.00	10 000.00	9 460.00
Maximum	30 000.00	20 000.0	25 000.00
Mean	15 633.00	16 133.33	15 324.45
Std	8 841.06	4868.57	4 710.46
<b>Clothes</b>			
Minimum	2 500 .00	2 000.00	3 000.00
Maximum	20 000.00	15 000.00	15 000.00
Mean	6 666.66	6100.00	5 766.00
Std	4 309.62	3 111.50	2 674.05

ANOVA technique was used to test statistically significant differences contributions of women's house hold income expenditure pattern in food, clothes and shelter respectively (Table 9). F - test enabled the researcher accepts alternative hypothesis and reject the null hypothesis. Since 0.04 is less than 0.05 there is statistically significant differences contribution of women's household income expenditure pattern for food among three SWMEs groups. However, F-test enabled the researcher accepts null hypothesis and rejects the alternative hypothesis as 0.88 and 0.606 are greater than 0.05. There is no statistically significant differences contribution of women's house hold income expenditure pattern for clothes and shelter among three SWMEs groups.

Table 8: One Way Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
<b>1. Food</b>					
Between Groups	3,229,000,000	2	1,614,500,000	1.93	0.040 ***
Within Groups	3,835,170,000	15	255,678,000		
Total	7,064,170,000	17			
<b>2. Shelter</b>					
Between Groups	1,750,000	2	875,000	0.12	0.888
Within Groups	109,750,000	15	7,316,667		
Total	111,500,000	17			
<b>3. Clothes</b>					
Between Groups	1,270,000	2	635,000	0.52	0.606
Within Groups	18,415,000	15	1,227,667		
Total	19,685,000	17			

The study finding is supporting (UDEEC, 2002) that low capital investment used by most women lead them to invest on IGAs that they can easily reach.

This is also consistent with (Rugamamu,1993) identified that, most women tend to undertake Income Generating Activities (IGAs) which are harmony with their traditional roles and in most cases are least profitable. The study findings show that women concentrated on (SWMEs) to meet their survival needs as they have no other alternatives. However, factors that influence women's choice of activities to engage in low income activities are related to their low ability skills, limited startup capital, limited access to working capital and their limited capacity to absorb the consequences of failure. Respondents participated to providing resources, such as labor, in return for cash or other incentives. However, they have no stake in prolonging activities when the incentives end.

The study findings in Table 10 show that majority (94.4%) of the respondents has ability to make decision on her income and the wealth accumulated through Solid Waste Management Enterprises since they use the money to purchase food.

Table 9: Analysis of women decision making on income and wealth (n = 90)

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Decision making on income</b>		
Individual	65	72.2
Partner	25	27.8
<b>Total</b>	<b>90</b>	<b>100.0</b>
<b>Wealth ownership</b>		
Yes	85	94.4
No	5	5.6
<b>Total</b>	<b>90</b>	<b>100.0</b>

This study finding is consistent to that study conducted by (Beato and Vives, 2003). Ownership as a state or fact of exclusive possession or control of property, ownership is of significant in determining the rules governing rights and responsibilities of the people with regard to the common property. With clear definition of rights, responsibilities and benefits people tend to develop the feeling that they own the property.

The study found that property accumulated /wealth by respondents included employment. There were different levels of property ownerships existing in SWMEs. The major types of ownership included public ownership, private ownership, community ownership, household ownership, individual ownership and public-private ownership; The study findings is also in line with Tanzania government goal of empowering the majority of her poor citizens; of which women constitute large percentage.

The study identified that respondents formed groups to meet predetermined objectives related to the project. Such involvement was not at early stages of project cycles or planning, but rather after major decisions has already been made. These institutions tended to be dependent on external initiators and facilitators, but they became self-dependent. From the study findings ninety women were interviewed to state how they were influenced to join the enterprises. The study findings as indicated in Table 11; revealed that (78.9%) of the respondents were influenced by friends, while (21.1%) of the respondents have been influenced by relatives to join with Solid Waste Management Enterprises.

Table 10: Analysis of women influence for joining in the group (n=90)

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Influenced to join the group by</b>		
Friends	71	78.9
Relatives	19	21.1
<b>Total</b>	<b>90</b>	<b>100</b>

However, when respondents were asked whether they are supplied with protective gears; the study findings show that enterprises supplied gloves, coats and boots as incentives that motivated respondents to continue working with Solid Waste Management Enterprise. Majority of the respondents (93.3%) claimed to have been using protective gears while (6.7%) of respondents said that they were not given protective gears Table 12.

Table 11: Analysis of respondent's use of protective gears and types (n=90)

<b>Variables use of protective gears</b>	<b>Frequency</b>	<b>Percentage</b>
Boot, Gloves, Masks and Coat		
Yes	84	93.3
No	6	6.7
<b>Total</b>	<b>90</b>	<b>100</b>

From the study findings women were interviewed to state for how long they have been serving Solid Waste Enterprises. However comparison of years of group membership by enterprise (Table 13) shows that there is no mean statically significant difference. The study findings show that majority of respondents from enterprises have experience ranging from two -three years.

Table 12: Analysis to compare women group membership by enterprise (n=90)

<b>Statistic (year)</b>	<b>Kuche</b>	<b>Municipal</b>	<b>Kikundi kazi</b>
Minimum	1.00	1.00	1.00
Maximum	5.00	5.00	5.00
Mean	3.10	2.63	2.93
Std	1.26	1.15	1.17

This is due to the nature of temporary contracts. The indicators of ownership rights included, "the legal security" (employment contracts) to show how informal law or formal law protect the ownership rights, others included rights to make decision on how the property being employment should be used and right to undertake economic activities without pandemonium.

### ***Distribution of respondents by challenges they face at work***

The study findings from the respondents interviewed if they face any challenge at work; respondents revealed challenges they face as indicated in Table 14. Low income and rude language were among gender stereotypes that limited other women to join the solid waste enterprise. Rude language was reported to MDOs by one respondent of KIKUNDI KAZI enterprise. This information is consistent to other studies as identified during policies lead to privatization of solid waste management; Public Private Partnership is defined as coalition of interest drawn from more than one sector in order to prepare and oversee an agreed strategy for the regeneration of defined area (ILO, 2004).

Table 13: Analysis of challenges facing women by involving to SWMEs (n=90)

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
Rude language	76	84.4
Hard working	62	62.8
Low income	72	80.0

The question was whether privatization of Solid Waste Management Enterprises (SWMEs) has contributed to better services to majority of people especially the marginalized women. The study findings show that privatization brought decision making closer to where women are, thereby potentially giving them greater opportunity to have their voice heard. There are other several challenges including late payment of monthly salary. Women's IGAs contributed about Tsh 50 000-100 000 per month to household's food expenditure. According to the study findings in Morogoro Municipality Table 15; most of respondents have fairly improved their living standard as compared to their previous way of living.

Table 14: Distribution of respondents by opinion on the contribution of waste Management Enterprise groups on their living standard (n=90)

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
Food status	75	83.3
Shelter status	72	80.0
Cloth status	72	80.0

The importance of Solid Waste Management Enterprises was revealed by three respondents and leaders representing enterprise group members in group discussion held at Boma ward in the Morogoro Municipality. They said that before they engaged in Solid Waste Management Enterprises their household had scarcity of basic needs, they had shortage of money for buying

food, clothes and paying for house rent. But now the house hold eats properly, systematically and there is no worry about food shortages again. They can afford to have three meals in a day.

## CONCLUSION

This study work was an evaluative attempt to explore the contribution of Solid Waste Management Enterprises on Women's Income at Household Level. To realize this, Chapter one to four dealt with several different aspects pertaining to the problem. The last chapter five provides an overview of the research study. It summarizes the research findings, making conclusions and gives pertinent recommendations for action and further research. The overall objective of the study was to assess contributions of Solid Waste Management Enterprises (SWMEs) towards women's income at household level in Morogoro Municipality. Analysis on women's household expenditure pattern was made specifically on three types of Solid Waste Management Enterprises (SWMEs) i.e. Community Base Organization (CBO), Public and private enterprises. Demographic characteristics of women involved in three Solid Waste Management Enterprises in the study area have been clearly discussed. Challenges that women are facing were also identified. Lastly recommendations were made in order to improve (IGAs) undertaken by women to increase productivity and ensure sustainability. Conclusion of specific objectives based on the study findings in the study area:

1. Solid Waste Management Enterprises undertaken by women in Morogoro Municipality: Three types of SWMEs including; KIKUNDIKAZI cleanliness group (CBOs), Public MOROGORO MUNICIPALITY cleanliness group and KUCHE cleanliness group private enterprises were identified. Demographic characteristics of the women involved in three SWMEs in the study area indicated that, there are variations between age, marital status, and education level. The findings show that most women undertaking SWMEs are elders, married and have primary level of education. Their Household structure does not vary much, thus explanations for variations have been given and they tend to conform to other studies carried out in other developing countries.
2. Contributions of Solid Waste Management Enterprises towards women's income at household level in Morogoro Municipality: Women involved in solid waste collection in the study area reported that their income from SWMEs is ranging from Tsh 50 000 -100 000 per month. Most of women household in the study area spent large amount of family income to purchase food.
3. Contributions of women's income at household expenditure within SWMEs in Morogoro Municipality: The study findings from group discussion and respondents views show that women's income from Solid Waste Management Enterprises suffice to support food

expenditure by Tsh 50 000-100 000 per month. However women's house hold food expenditure pattern is statistically different within SWMEs. Thus alternative hypothesis is accepted and reject null hypothesis at 5%levels. Since women's income household expenditure pattern in food, shelter and clothes are higher than Tshs 50 000-100 000 from SWMEs, women are supposed to have income from other sources to suffice their living. The study also revealed that women engaged in low –income IGAs in order to be less dependent to their husbands, friends and relatives. The study findings also identified women to have individual ownerships and ability to make decision on wealth they accumulated.

4. Constraints and challenges that women are facing in SWMEs in Morogoro Municipality: The study findings in Morogoro Municipality show that women are facing gender stereotype, lack of entrepreneurship skills related to the activities they are undertaking hence limited them to access Labor market. Low income, lack of savings and access to formal credit inhibited them to expand investment to become diversified.

## RECOMMENDATIONS

In the light of the above conclusion, the following recommendations may be useful to policy makers, development agencies for improvement of economic activities undertaken by women in Morogoro Municipality and the rest of the country.

### National level

Development agencies policy makers at national level are recommended to strongly recognize the social and economic importance of IGAs undertaken by women in both urban and rural areas. Education, entrepreneurship skills and expertise are very important for rapid development of IGAs; thus proper policies and strategies should be in place so as to ensure women's IGAs are improving in sustainable way. Government needs to formulate policies that will ensure women are given priorities in education and training on entrepreneurship skills. This can be done by improving the existing Vocational Training colleges (VTC) and Folk Development Colleges (FDC). The improvement should focus on amelioration of curriculum and general environment of those training Institutions. The government and development agencies concentrate on improving economic resources which are important for improvement of income generating activities knowledge skills and transport facilities to handle solid wastes. What needs to be done at national level?

1. Capacity building tools developed by international agencies should be made completely gender sensitive.

2. Gender sensitive capacity building tools developed by international agencies should be widely disseminated and tested, to provide local authorities with guidance on working with community based organizations, including women's grassroots organizations.
3. Local authorities and governments should institute training program for councilors and staff on collaboration with CBOs, including women's organizations and networks.
4. The capacity of women leaders should be built on accountability to the women they represent.
5. Build capacity of women in gender budgeting skills at city/municipal level.
6. Build capacity of local authorities to mainstream gender priorities in plans and program.
7. Develop tools for gender budgeting at municipal level.

### **Community and household Level**

Recommendations for community and household level are made as follows; Community needs to identify and fight all customs that oppress women and deny women access to economic resources and ownership of accumulated wealth. Women should be involved in planning and make decisions on the community issues. Community should acknowledge women's income contributed within house hold and at national level. Community and household are advised to have gender sensitive budget system and spend accumulated income carefully. This will be possible if well established infrastructures, material and human resources are well identified. However, what needs to be done at community and household level is to include:

1. Sharing of information and collective learning on existing activities' aimed at capacity building of women at grass root level.
2. Donor support to such activities, based on learning from best practices like those from ILO- Addis Ababa City Ethiopia solid waste management and taking them to an effective scale of operation in Morogoro Municipality.

### **LIMITATIONS OF THE STUDY**

In conduct of the study the researcher encountered some limitations as described below:

1. Financial resources constraints during the actual execution of the research which affected the timely accomplishment of the specific task.
2. Some respondents were not ready to provide some information which they regarded as private but the researcher assured them that their information will not leak to unintended users of the information.

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