

**COMMUNITY PARTICIPATION AND SOLID WASTE MANAGEMENT IN
URBAN COUNCILS: A CASE OF MASAKA MUNICIPAL COUNCIL**

By

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DECLARATION

I, James Luyimbazi, do hereby declare that this dissertation is my sole effort except in instances where scholarly literature has been used. Further it has not been submitted to any higher institution of learning for any award.

Signature:.....**Date:**.....

James Luyimbazi

APPROVAL

This is to certify that this dissertation titled “**Community Participation and Solid Waste Management in Urban Councils: A Case of Masaka Municipal Council**” has been submitted for examination with our approval as Institute supervisors.

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DEDICATION

To my father and family who have supported me all the way from the beginning of my studies.

ACKNOWLEDGEMENT

I thank the almighty God for giving me wisdom and strength to complete this research work.

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LIST OF ABBREVIATIONS

CBD:	Central Business District
CSO's:	Civil Society Organizations
DV:	Dependent Variable
EU:	European Union
ILO:	International Labour Organization
IV:	Independent Variable
KCC:	Kampala City Council
M&E:	Monitoring and Evaluation
MoLG	Ministry of Local Government
MSWM:	Municipal Solid Waste Management
NEMA	National Environment Management Authority
NGO's:	Non -Governmental Organizations
PHO:	Public Health Officer
PIM:	Project Impact Monitoring
SWM:	Solid Waste Management
SWMP:	Solid Waste Management Plan/Program
TC:	Town Clerk
UBOS:	Uganda Bureau of Standards
UMI:	Uganda Management Institute
UN:	United Nations
US:	United States
USEPA:	United States Environmental Protection Agency
WATSAN:	Water and Sanitation
WB:	World Bank
WIS:	Waste Information System

ABSTRACT

The inability of municipalities to handle the increasing amount of waste generated is a growing problem in most developing countries. The study examined how community participation affected solid waste management in Urban Councils, a case study of Masaka Municipal council. A theoretical framework was developed employing the Institutional Theory and the Waste Management Theory, which were used as a basis to compare theoretical and actual practices when analyzing waste management practices in municipalities. The report shows that despite some hurdles, there are some municipalities which have addressed the waste management problem using community participation in their localities. Both qualitative and quantitative approaches were used to obtain data that was analyzed to obtain key findings based on specific objectives that included: a positive correlation results for planning (.179**), implementation (.595**) and M&E (.431**) on Solid Waste Management. Findings indicated that there was very low community participation at the planning level and very poor community participation at the implementation and Monitoring and Evaluation levels to contribute to effective solid waste management in Masaka municipal council. There has been a big communication gap between the community, elected leaders/councilors and Masaka municipal council hence the community's interests, views, activities and challenges in SWM were not being addressed. The study recommends that the communication gap be addressed and that all stakeholders should be encouraged to participate at all levels of managing waste for purposes of contributing towards an efficient solid waste management system.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This study was devoted to assess the role of community participation on Solid Waste Management in Urban Authorities in Uganda with special reference to Masaka Municipal council. The chapter presents the background to the study, statement of the problem, purpose of the study, objective of the study, research questions, hypotheses, conceptual framework, scope of the study, significance of the study and justification of the study. The key variables studied included Community participation and Solid Waste Management.

1.2 Background to the Study

1.2.1 Historical Background

Waste is an inevitable product of society. From the days of primitive society, human and animals have used the resources of the earth to support life and to dispose their waste. In the early times the disposal of human and other waste did not pose a significant problem because the population was small and the amount of land available for the assimilation of waste was large. However problems with disposal of waste can be traced from the 14th century. Littering of goods and other solid waste in medieval towns led to breeding of rats and outbreaks of the plague, epidemic which killed half of the Europeans causing many subsequent epidemic and high death tolls (Bortoleto et al., 2007).

According to Schubeler (1996), it is only of recent that Municipal Solid Waste Management (MSWM) has attracted increasing attention from bilateral and multilateral development agencies due to the mounting urgency of urban environmental problems that were identified in the Rio De Janerio conference, specifically under Agenda 21, Chapter 7 and 21 that urban council began to improve on the management of waste.

Inclusion of the public in decision making in Solid Waste Management (SWM) in East Africa began in the late 1990's where the focus was and remains primary on collection services. The International Labour Organization (ILO) began to experiment with micro – franchising in 1998 in Dar es Salaam and since then has disseminated this inclusive service model to many East African cities. Moshi is one of the reference cities in starting to expand collection coverage with micro- franchising. Nairobi, is another reference city that has embraced private collection zones on a private – private arrangements which the Nairobi city council begun to regulate in 2006 (UN-habitat 2010). Various Urban councils have different ways of managing their solid waste of collecting, transporting and disposing of waste.

Municipal Solid Waste Management (MSWM) is a major responsibility of urban authorities which consumes between 20% and 50% of the Municipal budgets in developing countries. In Uganda, Solid Waste Management is a decentralized function to the respective urban Authorities according to the Local Government Act, 1997 and the Constitution of Uganda 1995. In addition, the Ministry of Local Government has developed the Harmonized Participatory Planning Guide for Lower Local Governments (June 2004),as well as the District and Urban Development Planning Guidelines (2006), all of which were developed to empower Local and Urban Councils to embrace Community participation.

The rationale for effective community participation is clearly based on the fact that everyone generates waste which means that in the same vain they are affected directly or indirectly. Consequently everyone has to be involved in the management for an effective and efficient waste management system, since it can also be a resource in terms of employment (Squires, 2006). It is not only important to involve individuals in SWM but also groups and the private sector for purposes of attaining ownership since management by the government may not be the most efficient approach. The study examined the role of community

participation and effective Solid Waste Management in reference to Masaka Municipal Council.

1.2.2 Theoretical Background

To understand the role of community participation in addressing the problem of solid waste management, the report focused on Scott's Institutional Theory (1994) and Eva Pongracz, Paul, Phillips, S., and Ritta Keisk's Waste Management Theory (2004). The Institutional Theory gives an insight on how an Organization or Institution functions or operates. It takes away the individual actions and replaces them with groups or collective actions. The theory advocates three pillars which are the Regulative, Normative and Cultural pillars. The regulation pillar is meant to regulate behavior. This involves setting guidelines to be followed while designing the project or while planning for a project. It also involves procedures agreed upon by the community's involvement to succeed. The normative pillar explains how people behave in a culture seeking to do the right things (Norms and values of the Institution). The cultural pillar is about the sharing concepts that constitute the nature of social reality and frames through which they are made.

The Waste Management Theory (Prongracz et al., 2004) is a unified body of knowledge about waste and its management. It is founded on the expectation that waste management is to prevent waste to cause harm to human health and environment and promote resources' use optimization. The theory advocates activities which include: avoidance of waste creation / prevention, reduction of waste, recycling and resource recovery, storage, transportation and disposal using appropriate technologies. In this study, the Theory of Waste Management explains or underpins effective Solid Waste Management. It concerns prevention of waste creation on streets and in public places which requires the community to work in partnership for a sustainable environment. While the Institutional Theory represents the independent variable with its three pillars of the Regulative, Normative and Cultural cognitive to explain

the dimensions used in the study which are; involvement of the community in planning, Implementation and Monitoring and Evaluation as it is done in a project cycle.

1.2.3 Conceptual Background

The study discusses the role of community participation as the independent variable comprising of planning, implementation and monitoring and evaluation and its relationship with solid waste management as the dependent variable. It examines aspects of Solid Waste Management which include; solid waste collection, SW transportation, SW disposal, waste reduction, re-use, recycling, recovery and institutional challenges that come as a result of community participation.

Moningka (2000), defines community participation as a process in which community members are involved at different stages and degrees of intensity in the project cycle with the objective to build the capacity of the community to maintain services created during the project after the facilitating organization has left. While (Subash, n.d) defined Community participation as a sociological process by which residents organize themselves and become involved at the level of a living area or a neighborhood to improve the condition of daily life for example in the Water, Sanitation health, Education and others sectors. It comprises of various degrees of involvement but what is important is collective involvement (Financial and Physical) contribution, Social or political commitment at different stages of the project cycle.

The term solid waste (SW) is used to refer to municipal waste and can be categorized in seven groups. They are residential (or household or domestic waste, commercial, institutional street sweeping) construction and demolition, sanitation and industrial waste (Gombya & Mukunya, 2004). Another scholar, Danbuzu (2011), defined Solid Waste Management as the scientific way or established procedure and sanctioned legalization for

the collection, transportation and disposal of waste products which is economically feasible and environmentally viable. He also points out that waste management differs for developed and developing countries, urban and rural areas for residential and industrial producers.

Solid Waste Management involves activities that begin from the point of generation to the final disposal and can be grouped into functional dimensions which include: (1) Waste generation, Waste handling and sorting (2) Storage and Processing at source, (3) Collection (4) Sorting and Processing transformation (5) Transfer and transport.

Effective Solid Waste Management is that which ensures better human Health and safety. It must be safe for workers and safeguard public Health by preventing the spread of diseases. It must be both environmentally and economically suitable (UN Habitat, 2008). Effective Solid Waste Management should involve regulation and monitoring of waste facilities and generators, control disposal of material and promote sound management of waste by communities businesses and industries. Management of solid waste practices differs for developed and developing countries and for urban and rural areas and for residential and industrial producers. Management for non-hazardous, residential and institutional waste in urban areas is usually for the municipal Authorities while the management of hazardous commercial waste is usually the responsibility of the generator (Amal, 2010).

1.2.4 Contextual Background

It should be noted that rapid population growth aggravates the continuous increase in the volume of solid waste generated per day. In Asia alone the waste generation rate is predicted to increase from 760,000 tons to 1.8 million tons per day by 2025 (Ahmed et. al 2004). The greater percentage of these wastes is not collected properly or is dumped illegally. Mexico City, out of an estimated 10,000 tons of waste generated per day at least 25 % is dumped illegally. While in Japan out of 5,350 tons of waste generated per day in metro

Manila 75 percent is collected while the rest is dumped illegally (Schubeler 1996) & (Atienza, 2007).

The United States Environmental Protection Agency (USEPA) pointed out that 90% of municipal and industrial wastes are disposed of on land in environmentally questionable ways. The results are potential Public health problems, ground water contamination by leachate, and surface water pollution by runoff, air pollution from open burning, fires and explosion at dumpsite and risks to ecological systems (Zagozewski et al., 2011).

In Uganda, the Local Government Act 1997 mandates urban councils autonomy to plan while executing out their functions in a holistic way, where planning should be bottom – up from village to the highest level of local governments. This kind of planning leads to effective democratic governance that fosters civic engagement in planning resources allocation, utilization and efficient SWM in towns. In addition to this, the decentralization policy has been enforced by the Local Government Act 1997 which spells out the functions of Local Governments and urban councils in particular the 2nd schedule part 3 (w) states that: “Sanitary services for removal and disposal of rubbish, carcasses of animals and all kinds of refuse and effluent are a mandate of the municipal councils in their jurisdiction”. Masaka Municipality is no exception to these drawbacks in the existing waste management. For example, distribution and allocation of waste bins at improper locations is evident, no separate bins for recyclable waste, pollution of natural water streams due to waste collection centers proximity and open burning. Heaps of solid wastes continue to emerge in the municipality on a daily basis and the sites have become fertile grounds for breeding flies and other vectors which have in effect become health hazards, obstructing traffic flow, causing environmental degradation and general unsightliness. The problem of refuse disposal is basically a feature of rapid population growth and urbanization which in Uganda is still in its

infancy. The other problem is location, most of the collection centers are not well planned and this leads to introduction of illegal collection points.

1.3 Problem Statement

Population dynamics have significant influence on the amount of waste generated and its proper handling in the municipalities (Anomanyo, 2004). The problem is aggravated by open dump nature of disposing waste especially in the slum areas of most African cities (Danbuzu, 2011). In its efforts to overcome the waste problem, Masaka Municipal Management in line with the community participation had engaged in planning including holding meetings, report writing and corrective actions while community participation in implementation including mobilizing of locals, performing situation analysis, realization of action plans coupled with dissemination of valuable information. In addition, community participation in M&E focused on participatory monitoring tools, reporting skilled as well as evaluation. These brought change in terms of recruitment of garbage collectors, waste management sensitization of the locals, purchase and installation of garbage containers among others (Masaka Municipal Annual Report, 2009). The participation of the community seems to have resulted into fewer and poor solid waste management among the locals. The Municipal has continued to experience extremely massive waste which constrains its efforts for solid waste.

Despite these community participation and efforts made, solid waste problem in form of careless and illegal dumping of waste, heaps of refuse littered, numerous polythene bags, plastic containers, home waste among others have been evident throughout the entire municipality especially in the Central Business District (CBD) and in slum areas on a daily basis. These heaps of waste have become fertile grounds for breeding flies and other vectors which in effect become health hazards, hence causing environmental degradation (Kiiza, 2009). In addition, the rate at which solid waste management have been deteriorating is uncertain and this has been partly attributed to the way the community and municipal

participate. This form of mismatch between Community participation and Solid Waste Management was the gap explored to ascertain the effect of Community participation and Solid Waste Management in Masaka Municipal Council.

1.4 Purpose of the Study

The study sought to examine the effect of Community participation on Solid Waste Management in Masaka Municipal council.

1.5 Specific Objectives of the Study

The study was guided with the following objectives.

- 1) To find out how Community participation in Planning affected Solid Waste Management in Masaka Municipal Council.
- 2) To examine the effect of Community participation in Implementation affected Solid Waste Management programmes in Masaka Municipal Council.
- 3) To assess the effect of community participation in Monitoring and Evaluation on Solid Waste Management programmes in Masaka Municipal Council.

1.6 Research Questions

The study answered the following questions

- 1) How does Community participation in Planning affect Solid Waste Management in Masaka Municipal Council?
- 2) What is the effect of Community participation in Implementation on Solid Waste Management in Masaka Municipal Council?
- 3) To what extent did Community participation in Monitoring and Evaluation affect Solid Waste Management in Masaka Municipal Council?

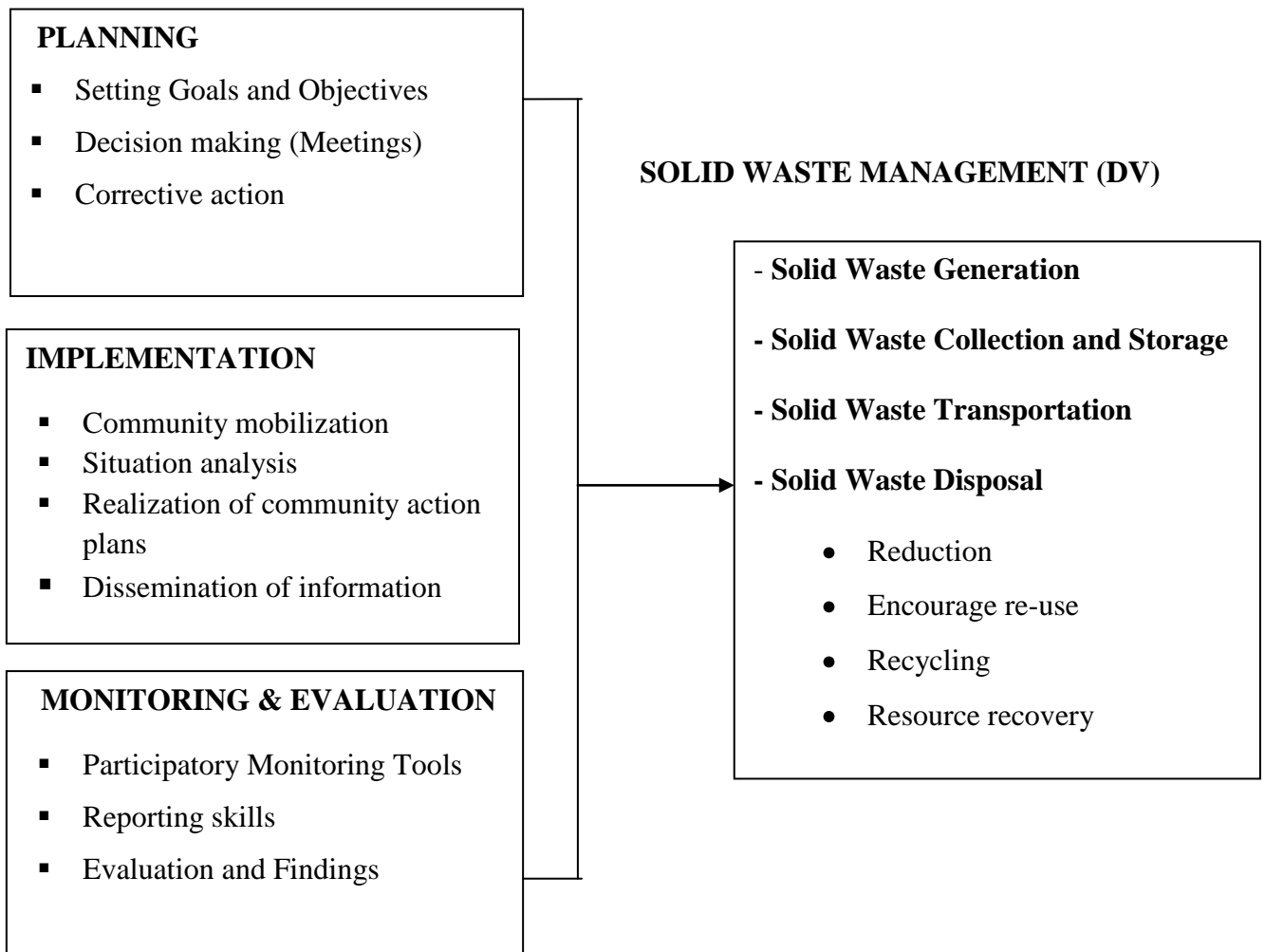
1.7 Study Hypotheses

The following hypothesis guided the study.

- 1) Community participation in Planning significantly affects Solid Waste Management.
- 2) Community participation in Implementation significantly affects Solid Waste Management.
- 3) Community participation in Monitoring and Evaluation significantly affects solid waste management.

1.8 Conceptual Framework

COMMUNITY PARTICIPATION (IV)



Source: Adapted from Berstein (2004) & PRIA (2008) and modified by the researcher

Figure 1. 1: Conceptual framework showing the relationship between Community participation and Solid Waste Management

The independent variable comprises of community participation in planning, implementation, monitoring and evaluation. In active participation the community is included/ involved at all stages of planning, implementation and monitoring and evaluation of Solid Waste Management programs and projects.

During the planning process stakeholders were assumed to engage in designing goals and objectives, local community was invited to attend meeting and thereby engage in decision making where solid waste problems were identify problems, with corrective actions marked as remedies to the problem. This was translated into enabling the community to come up with a municipal SW profile in relation to the existing infrastructure like (dust bins, skips and transportation routes). All these are possible when the community participate actively and through public awareness and sensitizing the public on the dangers of illegal disposal.

While at the Implementation stage was depicted as having community mobilization, situation analysis, and realization of community actions and dissemination of information. Here the community engaged in varying roles including managing waste in their households, removing it from their homes or premises, recovery for purposes of recycling and keeping public areas around their neighborhood clean intended to improve Solid Waste Management.

In addition, Monitoring and Evaluation as a continuous and the last stage in the Implementation of SWM was depicted as using three indicators including monitoring tools, reporting as well as evaluation and findings. Here, the community was involved in assessing SW programs/ projects to enable management take the required corrective actions.

Lastly, Solid Waste Management was depicted in terms of Solid Waste Generation, Solid Waste Collection and Storage, Transportation and Disposal including reduction, encouraging re-use, recycling and resource recovery, all achieved by engaging the local community of Masaka Municipal Council.

1.9 Scope of the Study

1.9.1 Geographical Scope

The study was carried out in Masaka Municipality which consists of three divisions namely Katwe– Butego, Nyendo – Ssenyange and Kimanya –Kyabakuza. This study concentrated

on Katwe–Butego Division because it is the Central Business district of the Municipality. This scope was selected as it was found to have generated more Solid waste which remained uncollected as compared with other divisions hence posing a serious Health hazard or danger to the local community within the Municipality.

1.9.2 Time Scope

The study concentrated on solid waste from commercial and residential areas from 2008 to 2012. This is the period and time when the affected residents within the above divisions made several media alarms about the health threats that were posed by the presence of waste as a lot of it had been scattered, dumped indiscriminately in numerous areas of the municipality. Secondly, secondary sources of data were available and accessible.

1.9.3 Content Scope

The study concentrated more on Community participation which involved planning, implementation and M&E as the independent variable sub indicators and Solid Waste Management including Solid Waste Generation, Solid Waste Collection and Storage, Transportation and Disposal including reduction, encouraging re-use, recycling and resource recovery as key sub indicators of the dependent variable.

1.11 Significance of the study

The study findings help policy makers in formulating solid waste management policies as well as in the designing of appropriate methods of managing solid waste in urban authorities by involving local communities. The findings of the study raise awareness on issues pertaining to solid waste management at the community level. The awareness builds initiatives to reduce the problem of solid waste management in Masaka Municipality and the study contributes to the body of knowledge on the studies already conducted in the management of solid waste in developing countries.

1.12 Justification of the Study

Whereas there are many previous studies on solid waste management worldwide, there is no earlier study assessing the role of community participation and solid waste management in Masaka Municipality. Many authors have pointed out how expensive it is to manage solid waste but no study has investigated the contribution of the community as far as planning, implementation and monitoring and evaluation are concerned in the management of solid waste in Masaka Municipal Council. The investigated problem will help to give ideal solutions to policy makers on poor waste handling which leads to disease outbreaks and poor health among the community. Whereas a number of researches have been carried on Solid Waste Management in Urban Authorities such as Mbarara Municipality (Mushabe, 2007), Arua Municipality (Karoo, 2008), Hoima Town Council (Isigoma, 2009), Kawempe Division (Gombya & Mukunya), Mbale Municipality (Bergyvisit & Wieslander, 2006) and Dhaka city (Hasnat, 2004), none has been carried out in Masaka Municipality. Following the request to the Central Government to elevate Masaka Municipal Council to a city status poses a great challenge in the way the increasing solid waste will be handled; therefore the study is indeed timely.

1.13 Operational Definitions

A Community: In this study was referred to as a group of people who lived in the same area and share common interests.

Participation: In this study was referred to as where stakeholders took an active role in determining their own destiny by taking part in planning, implementing, monitoring and evaluation in solid waste management.

Participatory: In this study was referred to as a system, activity or role that involved a particular person or group of people by human activity.

Community Participation: In this study was referred to as a process by which residents organized themselves and became involved at all levels of a living area or a neighborhood to improve the conditions of daily life.

Solid Waste: In this study was referred to as household refuse, market waste, street sweeping and waste material from Institutions such as schools, medical and commercial.

Solid Waste Management: In this study was referred to as the collection, transportation and disposal of solid waste.

Effective: In this study was referred to as something that was effective worked well and produced desired results.

Effective Solid Waste Management: In this study was referred to as that which ensured better human health and safety. It encouraged waste reduction, waste generation, recycling, re-use and recovery.

Urban Council: In this study was referred to as a City, City division, Municipal council, Municipal division, and Town Council.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed relevant literature; it discussed the conceptual review regarding the relationship between Community participation and Solid Waste Management as well as theories regarding the study. In addition, the chapter was arranged based on the specific objectives of the study presenting views and findings of other studies and identifying the gaps therein.

2.2 Theoretical Review

It can be noted that various authors in an attempt to find solutions to solid waste management have come up with varying theories. In this particular study, focus was laid on the Institutional Theory and the Waste Management Theory as explained below. The institution theory brings in the concept of an institution to understand it well. The concept of an Institution is attained through an understanding of the formal forms of rules like constitutions, legal systems and government structures to include informal aspects. Meyer according to Mungure (2008), defined Institutions as cultural rules giving collective meaning and value to particular entities integrating them into larger schemes. In this definition the behavior of individuals and their involvement in other social aspects is determined by wider rules. While Scott (2004), defined an institution as that which is composed of cultural-cognitive, normative and regulative elements that, together with associated activities and resources provide stability and meaning to social life.

Scott (2004) further comments that, there is no single definition of institutions and universally agreed definition of institutions which I totally agree with. What is important is to understand how institutions operate using the three pillars. These are the regulative,

normative and cultural-cognitive system. When looking at the institutional perspective of solid waste management it is essential to consider all the three as contributing interdependently and mutually in reinforcing ways to a social framework.

The regulative pillar is meant to regulate behavior. The process involves setting rules, monitoring and sanctioning activities. These are guidelines that are set to be followed in a planning process. It is assumed that there are procedures that have to be agreed upon by the community in a collective way for sustainability of the program. While the Normative pillar people behave in away / Culture seeking to do the right thing. The people know the right direction to take; hence the actors reflect the norms and values of the institution to which they belong and the Cultural pillar is about sharing conceptions that constitute the nature of social reality and frames through which they are made. In this case regulative pillar represents planning, normative represents implementing and the cultural represents the monitoring and evaluation dimensions of my independent variable.

Mungure (2008), argues that although rules, norms and cultural beliefs are considered central ingredients of institutions, it is however important to consider human behavior which is creating and applying these norms, Interpreting meanings or beliefs and formulating, modifying and obeying or disobeying these rules. Hence they cannot be separated from the associated behaviors and material resources. This means that institutions can either empower or restrain the actor's behavior therefore making them more or less capable of operating according to the rules. This implies that MMC can influence the community's behavior in handling waste by either empowering or restraining the community to contribute to the success or failure of waste management.

The three pillars work in a coordinated way not isolated to each other. Hence the community sets its own rules, norms and culture. They (community) are regarded as the actors, rule

makers, implementers and evaluators in the whole project of solid waste management. The community must be fully involved in the whole process of solid waste management.

As far as Scott is concerned, there is reduced effectiveness in the public sector (Municipalities like Masaka). This is due to the presence of low integration of formal rules with informal norms in ways that ensure community participation. The institutional context in which organizations and individuals operate is important in ensuring the required incentives and rewards for improved municipal service delivery in this case involvement of the municipal leadership, the technical staff, community or household owners, youth and women. When they collaborate as an institution they obtain the objective of creating a clean environment hence have a refuse free town.

On the other hand, the theory of waste management (Prongraiz et al., 2000), is a unified body of knowledge about waste management. It is founded on the expectation that waste management is to prevent waste to cause harm to human health and Environment and promote resource use optimization.

In Industrialized Nations, the waste management practices evolved in the 1970s whose focus was on reducing environmental impacts and it was done by creating controlled landfill sites. While in 1980 and early 1990's, the focus was on new technological solutions for waste management and in the mid 1990's until today the focus is on resource recovery (Anamanyo, 2004). Changes in waste management policies in recent times have shifted waste management planning from reliance on landfills towards integrated solid waste management (Read, 1999). New directives / Legislation were promulgated in the EU and the US on waste disposal in the interest of environment. For example according to Sakai (1996), in Read, points out that "In 1993 Government's Action plan on waste and Recycling in Denmark set out to achieve targets of 54% recycling, 25% incineration and 21% of landfill

by the year 2000. The problem with municipalities in the developing world is poor enforcement or non-existence of waste management policies which contribute to open dumping leading to a lot of heaps of garbage on streets which is left unattended to. The theory advocates activities like avoidance of waste generation/ prevention and reduction of waste using appropriate technologies; resource orientation improvement of waste facilities for example substitutes of hazardous substances re-use of products or parts, internal recycling of products, waste and internal re- cycling.

In the developing world for a program to succeed it must have incentives like Cost Benefit Analysis (CBA), life cycle analysis approaches where waste management system based on CBA usually convert all economic, social and Environmental impacts into monetary terms (Anamanyo, 2004). Such benefits should be like employment to the beneficiaries those engaged in the business, fertilizers from biodegradable waste, bio gas for cooking and recyclables to interested companies can pay a fee while those who collect waste from household can also be paid a fee for their services. So for an appropriate approach to solve the problem an integrated waste management approach developed by McDougall et al. (2000), is most likely to operate because it links the waste stream, waste collection, treatment and disposal methods, which aim at achieving environmental benefits, economic optimization and social acceptability.

For a SWM system to be sustainable, it needs to be environmentally effective economically affordable and socially acceptable (Nilson-Djerf & McDougall, 2000). This argument realms well with Petts (2000), who observed that the best SWM approach must be related to local environmental, Economic and social priorities and must go further to involve the public before important waste management decisions are made.

The Theory of Waste Management has been effective in developed countries unlike in the developing world where new directives and legislations have been promulgated on waste disposal in the interest of the environment. However in the developing world the theory has had some drawbacks because of non-existence of waste management policies and poor law enforcement which has resulted into dependence on open dumping and the only solution to this is to construct sanitary landfills supported by the World Bank and other bilateral donor agencies (Anomanyo, 2004).

The Institutional theory has also got some short comings (Antwi, 2008) the distinction between the three dimensions in the theory is not so clear cut as this description may indicate especially between the normative (Implementing) and cultural-cognitive pillar (Monitoring and Evaluation). The division is a thin line there are a lot of similarities in the activities that are involved in both stages. Again advocates of the normative theory focus on roles understood as normative expectations, guiding behavior, while the cultural cognitive oriented theorists focus on social identities but this does not in all situations constitute a dividing line.

Generally the theory might work in one area and fail in another just like institutions are divided in different categories as Scott terms them: regulative, normative and cultural-cognitive. They can also be categorized as informal and formal institutions. In this study the institutional theory and the waste management theory create a system oriented vision built on the principal that, institutions like Masaka Municipal Council and the community are considered to be in partnership with the environment in order to have a sustainable Solid Waste Management (Pongraz et al, 2004). So the two theories were used to support the investigation of how the community in Masaka Municipal Council was incorporated in protecting its environment while disposing of waste as a solid waste management system.

2.3 Conceptual Review

Local Governments of both developed and developing countries are concerned with environmental concerns of waste disposal. Its only of recent in the developing countries like Bangladesh the collection and disposal of solid waste was taken as one sided responsibility on the part of the municipal authorities burdened with financial and management problems but nowadays a community participatory approach as a process through consultation, collaboration and coordination among the stake holders has become a reliable option (Hasnat 2004). In Uganda, according to the Local Government Act Cap (243), Urban Authorities have the obligation of managing solid waste in their areas of jurisdiction through enacting bye-laws, collecting transporting and disposing waste, develop recycling programs and market for recycled materials and manage dump sites and sensitize the community. In most developing countries these services are either contracted out or the municipality does it single handedly for the case Masaka the study established the type of approach used in managing their waste.

Blottnitz et al. (2010), recommended that for the city of Nairobi to sustain its Solid Waste Management Plan (SWMP) effectively the Department of Environment (DoE) as the leading entity had to be empowered to execute the integrated solid waste management plan in the 4R (Recovery, Reduce, Recycling and Reduction). For Solid Waste Management to be effective there must be activities which are equally important these include: collection, transportation and safe disposal but in addition to this the recognition of multiple partners must be in place.

Equally so in Latvia, the Riga city strategy on solid waste management integrated environmental, economic and social concerns for the city development process., its strategy for sustainability was participatory and a cyclic process of planning and action to achieve economic, ecological and social objective in a balanced and integrated manner. It set priorities which included; recycling materials, use of waste as a source of energy,

compositing or incineration of waste without energy utilization, Land filling, introduced a general waste tax whose principal of the tax was considered to benefit environment and was imposed on industries and developed byelaws to prevent illegal dumping (Cilinskis & Zaloksnis, 2011).

All the above scholars call for inclusivity of the masses in the management of SWMP in order to protect the environment and to have sustainable development. This study examined the effect of Community participation had on the management of Solid waste in Masaka Municipal Council.

2.4 Actual Literature review

2.4.1 Community Participation and Solid Waste Management

A community is a group of people who live in the same area and share or have a common interest. It comprises of individual groups, Institutional agencies that have a common interest, stake or a share in any particular venture. These are people who are impacted on or have an interest in what happens by way of control or can contribute resources or information needed for support or are essential in terms of cooperation or have position power, credibility or influence as illustrated in the participants' Handbook of Higher Local Governments (2003).

Those who have a stake in solid waste management include: the community (Beneficiaries); Non-Government Organization (NGOs), Local Governments, Civil Society Organizations (CSO), Community based organization (CBO's), Councils, Executive committees, Standing committees in the community, Central Government, Ward communities and Donor agencies. For this study the Executive committees and Heads of departments at the district and municipal council were included. Heads of department, Councilors at a division level and

Garbage collectors, Village chairperson, Households and Shop keepers were stakeholders in this study.

Waste management and Community involvement can lead to sustainable development when individuals and organization with a legitimate interest towards achieving the goal of minimizing waste by allowing the community in general to be aware of the problems posed by inefficient management of waste. These include: government formal and informal organization sectors, environmental organizations and other groups working together to create awareness through SWM programs. Community involvement and participation is a means to create a sense of individual responsibility towards waste management and hence the sustainability of the system (Visvanathan & Jankler, 2003).

In Uganda the Local Government Act Cap 243 and Article 176 (2) b of the Constitution of the Republic of Uganda have mandated local and urban authorities under the decentralization policy to ensure participation and democratic control in decision making while planning for their communities and to exemplify this principal the ministry of local government (MoLG) has recognized the beauty of community participation by developing several guidelines which include the Harmonized Participatory Planning Guide for parishes/wards, April 2004, the Harmonized Participatory Planning Guide for Lower Governments (June, 2004) as well as the District and Urban Council Development Planning Guidelines (2006). The objective of all this is to enable Local Governments and Urban Authorities involve people in the way they are governed such as identification of problems, challenges, settings priorities, planning and budgeting, procurement, implementation and monitoring of projects and programs in their areas of jurisdiction. Planning in Uganda is supposed to be bottom- up and all stakeholders are supposed to play a big role for it to succeed. Based on this, study examined the effect of Community participation on Solid Waste Management in Masaka municipal.

2.4.1.1 Community participation in Planning and Solid Waste Management

Atienza (n.d.) pointed out that in addressing the issues of solid waste management local governments should adopt the Los Banos example of employing a participatory approach to identify and solve problems where the mayor conducted a series of multi-sector dialogues and consultations with different sectors of the community such as the researchers of the community, and academicians, barangay officials, food chains, restaurants, shopping malls and supermarkets, home owners and house residents associations, transport, gasoline stations and repair shops, junk shops and waste traders and religious sectors, resort and hotel operators, hospitals, clinics, funeral parlors, computer shops and cell phones dealers.

These consultative meetings make it easy for the community to find a suitable SWM plan by involving the community to identify problems, find solutions, gather information, sensitize the community on the dangers of illegal disposal and also come up with a way forward or community action plans. In Uganda Urban Authorities are mandated to come up with such a plan while planning for programs like Solid Waste Management. The proceedings of the Kitakyushu- Japan, initiative seminar on public participation spells out the activities that contributed to the success of the Dhaka City Corporation initiative in Bangladesh these included: public awareness on the importance of proper solid waste management in reference to health and other environmental impacts of improper solid waste disposal, whose purpose was to impose political pressure for proper disposal of waste, advice to households through public rallies and leaflets distribution on how to dispose of solid waste properly and not to throw solid waste in streets, open drains and nearby areas (Hasnat, 2004).

In support of involving the community in planning (Squires, 2006) observes that as developing countries achieve greater socio-economic wellbeing the more waste per capita is released and the more critical the need for effective and efficient SWM systems. And that

the performance of such a system will depend on the meaningful participation of individuals, community and institutions, producers, NGOs and Government. Further still, Squires (2006) notes that, all individuals generate waste and in the Caribbean, the scope of SWMP is country wide, thus public participation is a National scope and would involve everyone in the country. Such as: waste pickers, recycling industries, waste collection contractors, SWM facility operators and staff, residents in the close proximity of SWM facilities, politicians, Central Government and Public agencies, and Financial agencies. It is true everyone generates waste and it would be ideal that everyone should be involved in solving the problem of solid waste. However there is a tendency of contractors, politicians and financial institutions to leave out businesses that bring in zero profit especially in the social service sector like the religious organizations and cultural leaders.

Community participation in SWM has lots of benefits; among them is the reduction in cost of maintenance because the program or project is aimed at the community which they support thus cutting on the insufficient budget that municipalities allocate to the SWM sector. Worldwide there is no single/ universal approach that is used to come up with an effective SWMP various approaches are used. The same approach might succeed in one place and fail in another. In addition, PRIA (2008), reports that much as communal planning contributes to the success of effective Solid Waste Management, it is not automatic that it leads to success he compared small and medium towns that of Karauli, Jhunjhunu in Rajasthan, Janjgir in Chharithsgarh, Gopeshwar in Uttaranchal and Kangra in Himagnal praderti which got actively involved in the formulation of SWM plans where some failed because of insufficient funds and capacity. So the solution is that community planning should be prepared under specific guidelines by the technical staff and some significant funding.

It is also explained that the planning process was different from the conventional processes as it focused on intensive participation of the citizens and stakeholders in generating alternatives with identification of technical gaps in the system. The broad aim of this inclusive approach is to develop a participatory agenda that: Builds capacity for the community to take decisions in SWM systems, Recognize the importance of local stakeholders' involvement for improvement of existing situations of the town by incorporating their demands and suggestions in the action plan and ensure the informal sector and the marginalized are part of the planning process (PRIA, 2008)

Decision making held in meetings is required throughout the SWMP preparation process which includes identification of stakeholders who are important to creating a demand driven plan for the Town. In addition to this effective SWM Program depends on the cooperation of the population which is always through awareness of the importance of SWMP by generating a constituency for active participation of users and community groups in local waste management thus the study assessed the effect of Community Participation in Planning on Solid Waste Management in Masaka Municipal Council.

2.4.1.2 Community Implementation and Solid Waste Management

when the community gets involved in the design of the project, it integrates its needs and constraints in the objectives of the project and in this way can a more effective implementation be achieved (Moningka, 2000). Among the common roles that communities can undertake include; managing wastes within their household and removing them from their premises, rendering waste production and facilitating recovery for purposes of recycling, keeping public areas around their neighborhoods clean, supporting or participating in public projects intended to improve solid waste management, supplying “watch-dogs” for the neighborhood and the city at large. Providing inputs to solid waste

facility, setting decisions, participating in the preparation of strategic solid waste management plans, providing public education for raising awareness about issues and problems of waste management including healthy education, environmental health and attitudes towards waste and waste workers and sponsoring or participating in special campaigns, competitions hence the profile of solid waste management (Bernstein, 2004).

In support of the above observation, Moningka (2000), describes the roles of different actors with their respective activities in the involvement of SWMP where: Individuals store waste in an organized way in bags and bins the recyclables in the right place. Groups collectively engage in meetings, clean ups, campaigns awareness activities, provide materials , financial and physical contribution to activities of SWM for example cart operators, sweepers and paying fees for waste collection. Formulate project meetings, opinions, ideas and objectives and activities of project committee members. Inclusion of the marginalized, the very poor, disabled, women, religious bodies, low literacy rates, traditional and social hierarchy other actors include the municipality CBO-micro-enterprises and local leaders.

Local leaders encourage people to subscribe for waste collection to stimulate separation of waste, monitor the service level, and advocate for pressure groups negotiate for private operators. It is believed that once all the actors are fully involved in the implementation phase of the SWMP it is sustainable which the researcher strongly agrees to. Working with the community normally gives positive results as Kativa (2002), argues that, the Bindura waste management project in Zimbabwe was a success where the project involved windows in recyclables, awareness training, orientation on environmental program was done in a consultative manner. The livelihood of the widows who were involved in the waste collection and recycling improved in addition to contributing to effective solid waste management.

In India, a study on households residing in Baranagar Municipality-Kolkata metropolitan city showed positive results by involving the community in implementation but doubted the sustainability of the system. Because even when introduced in areas with similar conditions in operation, because of voluntary services provided by the communities, low involvement of private agencies, inappropriate choice of methods the project failed. Efficiency can be achieved by involving the private sector or on a large scale along with community participation ,and including the provision of payment of incentives/ subsidies to them (actors) in exchange of services rendered (Snigda, Amita & Subhendu, 2009). In agreement to the above arguments, Amal (2010) confirmed that, NGO's, CBO's, religious organization, traditional rulers, politicians and elders contribute to the moral support, technical guidance and resources for good governance.

However, there are some drawbacks to community participation in terms of implementation that were identified. Additionally, Nare et al., (2006) in a study carried out in Limpopo Basine-small users in rural communities of Zimbabwe indicated that, there was very limited participation despite the presence of adequate supportive structures and organization reason being, there was no feed back to the community. In addition to this there were no guidelines on how dissatisfied members of the public could raise complaints. This means that, to have an effective solid waste system in terms of implementation there must be guidelines from the technical staff to enable the community take appropriate choices and actions and also provide avenues of receiving complaints on SWM from the community. Based on the above scholarly findings, the researcher examined the effect that Community participation in the Implementation had on Solid Waste Management in Masaka Municipal Council.

2.4.1.3 Community Participation in Monitoring & Evaluation and Solid Waste Management

Participatory Monitoring and Evaluation according to the United Nations Centre for Human Settlement (2001), should be an integral part of on-going implementation of strategies and plans. It provides a flow of systematic information feedback which allows appropriate adjustments to be continuous during the implementation. It allows drawing lessons and experiences especially demonstration projects for replication on a larger scale. The lessons and experience are basically for institutions and management to take up appropriate action rather than technical. The UNCHS Report (2001), highlights that, the purpose of monitoring and evaluation leads to a focus on how to build up the participatory process and its associated management approaches and tools into routine ways of doing business.

Bernstein (2004), describes participatory monitoring and evaluation as, a collective process that which involves stakeholders at different levels working together and assess a project or policy and take any corrective action required. This normally includes all the stakeholders in the project, such as men and women at the community level, intermediate organizations like NGO's, the private sector business and government staff at all levels. Project Impact monitoring (PIM) includes both systematic and qualitative information while confirming information gathered through qualitative techniques such as focus group discussions in a participatory way and systematic information regarded as non-participatory (Bernstein, 2004). It is important for local stakeholders to identify problems, collect and analyze information, generate recommendations and implement change on their own.

Monitoring is a useful tool in identifying problems that management can address to have an effective work plan. For example Squires (2006), in his findings of the study observed, that there was insufficient dialogue and consultation and that there was no system established to engage the public during the implementation stage. In addition to this much as they had

regular meetings between the relevant stakeholders they delayed in implementation among which was identification of the location of the land fill site. This means that at times there could be community participation in place but they fail to come up with a solution. Similarly, Mazinyo (2009), advocated for the inclusion of communities in environmental monitoring in the c-section Duncan Village study, formation of monitoring committees would helped out in enforcement of bye-laws that the municipal had approved in regard to effective solid waste management. So to achieve effectiveness there must be a community participatory mechanism to enforce the available laws/regulations. For the case of Masaka Municipal Council it was not known if there are any bye-laws as far as waste management is concerned neither is it known whether environmental monitoring committees are in place. However, there are instances where community monitoring committees fail to produce the desired performance because monitoring and evaluation is a complex activity as Schubeler (1996) observes that, technical evaluation requires data on waste composition and volumes, indicators of important area specific variations of waste generation and their expected changes overtime, understanding of disposal habits and requirements of different user groups and assessment of technical capability of public or private sector organization responsible for operating and maintaining the system. In most cases developing countries do not have data if they have its not accurate.

Insufficient beneficiary participation is also another contribution to poor performance. People are aware and informed but don't really get involved in decision making which is so common with urban councils in Uganda. Failure to have consensus leads to poor preparation and implementation because consensus building failed (Squire, 2006). Grounded on the scholarly writing above, the study assessed the effect that Community participation in M&E had on the effective Solid Waste Management in Masaka Municipal Council.

2.5 Solid Waste Management

The review of literature on Solid Waste Management is guided by four sub themes namely solid waste generation, solid waste collection and storage, solid waste transportation and solid waste disposal. Something that is effective works well and produces results that were intended. Solid waste management in most cities of the developing world is unsatisfactory despite consuming a relatively high proportion of municipal budgets. Most attempts at improving performance have mainly focused on collection and disposal capacity but it has not yielded significant results (Anjum, 1999). With the increasing demand for improved waste management, private sector participation is essential (Isingoma, 2009).

2.5.1 Waste Generation, Storage and Collection

According to Hammer.(2003) and Bernstein.(2004), waste generation is primarily a function of people's consumption pattern and thus economic characteristics. The very poor and the low income groups generate low volumes of organic waste. For example in Tasliket, Uzbekistan there is little food to go around and the parts that are not consumed by the household members are used for domestic animals and composited to amend the garden or soil. In addition, Danbuzu (2011) opined that rapid urban growth has created a lot of pressure on land resources within the area surrounding cities which has led to increased generation of waste. This is well manifested by the open dump nature of disposing waste especially in slum areas of most urban authorities.

An effective solid waste collection system is where the selection of the collection equipment should be based on area specific data, local collection systems should be based on area specific data, local collection systems should be designed in collaboration with the communities concerned and in the interest of lowering costs and efficient operation and maintenance, appropriate, standardized and locally available equipment should be selected.

Where need be privatization of maintenance and repair may be considered as a means of having maintenance costs and optimizing equipment utilization (Schubeler, 1996).

Achankeng (2003), also observes that much as cities use over 20-50 percent of their budgets in Africa only 20-80 percent of waste is collected. In line with the same argument Adebuason (2008), argues that despite heavy municipal spending on waste management most urban authorities fail to provide efficient, reliable, universal collection and environmentally solid disposal. Waste collection and storage is managed differently in municipalities sometimes households have to keep the waste to accumulate and then later transfer it to the main dumpsite.

Households place rubbish in containers at the front of their premises where it can be collected by handcarts or waste taken by householders or traders to the disposal site as often as desired or a rubbish truck regularly passes through a community giving a musical signal, the householders' waste is brought out by the individual householder and dump it onto a truck or in high income residential areas a waste disposal truck comes directly to each household and remove the waste stored in bins such a system is only available in areas easily accessible by trucks (Amal, 2010).

The researcher was in agreement with the arguments above that there were various ways of collection and storage of waste depending on the waste composition, volume, local waste handling patterns, therefore the study assessed the storage and collection practices of solid waste in Masaka Municipal Council.

2.5.2 Transportation and Solid Waste Management

Achankeng (2003) opined that although half of the waste management budget is dedicated to transport alone, only a very limited percentage of waste is removed to the waste treatment

centre or disposal site. In agreement to this, is Ecaat, (2003) and Gombya & Mukunya, (2004) who observed that challenges related to poor collection is due to several causes which include: inefficient transportation system, inadequacy of trucks and poor coverage of collection services due to poor roads and inaccessibility of some areas.

Furthermore, NEMA (2005) as cited in (Adebuason, 2008) also reports that almost 80% of the household are not served by Kampala city council collection facility due to bad roads and absence of vehicle pass ways. Transportation of garbage from the point of disposal in urban areas involves methods which range from waste delivery trucks and hand driven carts of different types and sizes (Amal 2010). Other than the problem of waste transportation being aggravated by inaccessibility others include high costs of maintenance of the equipment and high fuel costs thus contributing to the inefficiency in Solid waste management hence assessing the appropriateness of SWM transportation in Masaka Municipal Council to have an Effective Solid Waste Management.

2.5.3 Solid Waste Disposal

The disposal methods of solid waste have been handled differently worldwide. There are Some standard waste disposal methods that can be applied in combination to produce an effective solid waste management include: waste reduction, encourage waste re-use, recycling and waste resource recovery and each is reviewed below.

2.5.3.1 Solid Waste Reduction

In order to achieve waste reduction at source Bernstein (2004) recommends user cooperation regarding storage of household waste, waste separation placement of household containers discipline in the use of public collection points and source reduction, for example use of cloth instead of disposable diapers or bring ones bag to the market. Similarly, Medina (2002) describes waste reduction as a preventive action that seeks to reduce the amount of

waste that individuals, businesses and organizations generate. By not creating waste fewer collection vehicles and fewer number of refuse collection trips would be needed; few and smaller waste handling facilities would be required and it would extend the life of landfills. Society as a whole will benefit from a successful implementation of the waste reduction program. Lastly, Amal (2010) describes waste reduction as the creation of less waste and increased material recovery thus resulting into examining whether there were any methods or approaches that were used to ensure waste reduction in Masaka Municipal Council.

2.5.3.2 Encouraging Re-use

Most third World cities including Masaka Municipality Council do not collect in totality the waste generated by their residents which has a negative impact on human health and environment. In some areas not served by the municipalities, local entrepreneurs provide waste collection for a fee (Medina, 2002). He further explained that in Latin American cities, informal refuse collection use pushcarts, tricycles, donkeys, horse carts and pickup trucks serve the poor and retrieve the recyclable contained in the garbage before disposing of the remainder of the waste. In conformity to the above observations Ackenkeng (2003), asserted that there are few formal systems of material recovery in Africa much as there is a wide re-use of plastics, bottles, papers, cardboard cans for domestic purposes. The practice is highly common among the poor cities; he argues that the biggest problem is the lack of local and national market for the recyclables. The potential for recyclable needs a lot of support as reported by KCC Report (2004) in its strategy to improve solid waste management in Kampala City Council that the government needed to work along with KCC to have a viable project and clean up the area leading to an investigated on whether re-use was practiced in Masaka Municipal Council.

2.5.3.3 Recycling

After the re-use of materials and products, recycling comes next in the integrated waste management hierarchy (Madina, 2002). Recycling is the recovery of materials for melting them or incorporating them as raw materials. It is technically feasible to recycle large amounts of materials such as plastics, wood materials, glass, textile papers, leather to mention but a few. Components that are more amendable to recycling are those for which market exists and which are present in the waste in sufficient quantity to justify their separation. Recycling in solid waste management is not only good in terms of health but also it reduces poverty by providing employment to the youth and women who get involved in scavenging from households and sorting or separating of waste in the landfill areas. The study investigated whether there was recycling of waste in Masaka Municipal Council.

2.5.3.4 Waste Resource Recovery

The UN-Habitat (2010) reports that recovery of materials occurs in all stages of waste materials flow but most extensively waste pickers who live next to the dumpsite and the main items of importance are paper, textile, glass, metal and bones. Another scholar, Medina (2002), reports that in Cairo the zabbaleen of Cairo constituted to an effective re-use collection and recycling system. They used donkeys to collect waste from 350 households in a day. After sorting the garbage the collectors feed the edible portion to pigs, sell pig droppings and human excreta to farmers as fertilizers and scrap metal glass, paper and plastic to middlemen who would then sell the materials to craftsmen or industries for recycling (UN-Habitat, 2010). In agreement with this was Amal (2010) who maintains that resource recovery reduces the amount of garbage on the dump site since Scavengers Scramble to get resources out of garbage hence instigating a study on establishing whether resource recovery was practiced in Masaka Municipal Council.

2.6 Summary of Literature review

The literature reviewed in summary included the conceptual and the theoretical review of involvement of the community in planning, implementation, monitoring and evaluation and the challenges in solid waste management. A number of approaches have been attempted to address the problem in different parts of the world and the experience for developing countries and towns have been portrayed. The reviewed literature is therefore used to guide the study and identify the gaps therein.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was used in the collection of data. It comprises of the research design, study area, study population, sampling procedure and sample size, data collection methods, data collection instruments, validity and reliability of research instruments, procedure of data collection and analysis as well as measurement of variables.

3.2 Research design

A case study design was used. Case studies involve in-depth, contextual analysis of similar situations in organizations where the nature and definition of the problem happen to be the same as experienced in the current situation (Sekaran, 2003). A case study design makes an intensive investigation on complex factors that contribute to the individuality of a social unit. Both qualitative and quantitative approaches were used. Quantitative data were collected through a cross sectional survey method that gathered data from a sample of population at one point of a particular time. This method is cheaper than longitudinal studies that have a long period of time that affects consistency. While the Qualitative data were collected from council documents, like minutes, development plans and budgets. The variables of the case study were triangulated with interviews and questionnaires to capture contextual issues

3.2 Study Population

A population can be defined as the entire group of people, events or things that a researcher wishes to investigate, (Sekaran, 2003). Masaka Municipal Council is boasted with population of over 7,443 inhabitants. However, the research used an accessible population of 303 respondents including district officials (11), municipal officials (11), division officials

(34), village chair persons (11), hotel owners (25), householders (156) and (55) shop keepers, UBOS (2005) & Masaka Municipal Council Records (2011).

3.2.1 Sample Size and selection

A sample size can be defined as a subset or sub group of the population (Sekaran, 2003). Mugenda & Mugenda (2003), argue that it is impossible to study the completely targeted population. The sample of 211 respondents was determined based on the Krejcie and Morgan Table of 1970 (Attach Appendix IV) as indicated in Table 3.1 below.

Table 3. 1: Sample size from the study population and sampling technique

Category of Respondents	Accessible Population	Sample size	Sampling Technique
District Officials	11	10	Purposive sampling
Municipal Officials	11	10	
Division Officials	34	15	
Village Chairpersons	11	10	
Hotels owners	25	24	
Households	156	108	Simple Random sampling
Shop Keepers	55	46	
Total	303	211	

Source: UBOS (2005)-Masaka Municipal Council Records (2011) and determined using Krejcie & Morgan (1970)

3.3 Sampling Techniques and procedures

The researcher used simple random sampling and purposive sampling techniques. The simple random sampling technique, is a probability technique where every single element in a population has an equal chance of being chosen to form a sample was used to identify local households and shop keepers. The researcher used pieces of papers linked to specific rows and columns bearing the corresponding numbers and put them in a container, and these

papers were randomly picked, if the number picked was the same as any in the randomly selected row or column, then the respondent was selected to be part of the sample. On the other hand, purposive sampling a technique where a chosen sample is identified for a given purpose. In this case, the sample was identified and selected purposively as these were key informants, located in convenient places and were directly involved in the day to day solid waste management. The respondents selected here included; district, municipal, division as well as village officials. The choice for this technique was that these were key informants possessing valuable information needed on Solid Waste Management (Mugenda & Mugenda, 1999).

3.4 Sources of Data

Two sources of data including primary and secondary were used as explained in the sub sections 3.4.1 and 3.4.2 below.

3.4.1 Primary Source

This refers to first hand data collected for subsequent analysis to find solutions to the problem under study (Sekeran, 2003). The researcher collected data on Community participation and Solid Wastage Management from respondents including District officials, Municipal officials, Division officials, Village chairpersons, Hotels owners, Households and Shop keepers.

3.4.2 Secondary Source

Secondary data is data that has already been gathered by other researchers, scholars and authors, documented and its information is readily available either within or outside the organization useful to the researcher (Sekeran, 2003). This is collected from journals, publications and website materials.

3.5 Data collection methods

The study used three data collection including the interview, questionnaire survey and observation method as indicated below.

3.5.1 Interview Method

This method was used to collect qualitative data. Interviewing refers to a conversation carried out with the purpose of obtaining certain information by means of spoken words, (Amin, 2003). The interviewer pursues an in depth information around the research topic. Its advantage is that the method is adoptable and flexible to a given situation.

3.5.2 Questionnaire survey method

A questionnaire is that which contains structured questions to which respondents record their answers usually with closely defined alternatives and pre-formulated (Sekaran 2003). Questionnaires are completed at the respondents convince hence increasing chances of getting valid information and they also offer greater assurance of anonymity (Sarantakos, 1998). The researcher used structured questionnaires covering a number of closed ended questions for the collection of qualitative data that gives information on respondents' opinions on community participation and solid waste management. The questions had a list of possible alternative answers of strongly agreed, agreed, no comment, disagreed and strongly disagreed.

3.5.3 Observation method

In this method the researcher employed vision to examine what was happening in real life situation and then classify and record persistent happenings (Amin, 2005). This method gave firsthand information in explaining reality in its natural situation and studied events as

they evolved and it was cheap. It supplemented responses from respondents with the aid of an interview guide.

3.6 Data Collection Instruments

The instruments used to collect data from the field included mainly the Interview check lists, Structured Administered Questionnaire and Observation check lists.

3.6.1 Interview Checklist

An interview guide with un-structured questions was used. These were developed for only face to face interviews with key informants like the district, municipal and divisional officials, village chairpersons and Hotel owners. By asking probing questions using an interview guide, the researcher was able to collect additional and more revealing information which could not be obtained from self-administered questionnaires. Some research assistants were employed to conduct the interviews using the interview guide (See Attached Appendix II).

3.6.2 Structured Administered Questionnaire

Structured questionnaires comprising questions were developed and administered to the community of which households and shopkeepers formed the majority of respondents who answered the questionnaires. Variables in line with community participation in terms of planning, implementation and monitoring and evaluation were developed which generated opinions related to solid waste management such as solid waste generation, collection, storage, transportation and disposal of solid waste. Each item in the questionnaire was developed to address a specific objective, research question and hypothesis of the study. In this particular study, Close ended questions formed the best option because such questions are accompanied by a list of all possible alternatives from which respondents select the answers that best describes the situation (See Attached Appendix I).

3.6.3 Observation checklist

The researcher utilized the observation checklist to supplement on the reality of collection of data in the field mainly in garbage collection, storage, transportation and disposal (See Attached Appendix III).

3.7 Validity and reliability

To ensure quality control of the instrument, both validity and reliability were used as explained in sub section 3.7.1 and 3.7.2 below

3.7.1 Validity

Validity involves getting the most accurate data. Validity was done in order to find out whether the questions were capable of capturing the intended data. A validity test was carried out prior to the administration of the research instruments. The researcher contacted two experts in Solid waste Management; these included one WATSAN official and environmental officers to have a close look at the questionnaire; with the aim of weeding out the invalid and retaining the valid questions. Furthermore, after the expert's input, the Content Validity Index (CVI) was used to calculate the output. Questions were critically identified one by one, of which each was considered either relevant or not and a content validity index (CVI) was obtained using the formula below.

$$\text{CVI} = \frac{\text{Items considered relevant}}{\text{Total number of items}}$$

$$\text{CVI} = \frac{58}{85}$$

$$\text{CVI} = 0.7 (70\%)$$

The score of 0.69 was obtained, this translated to percentage was (**70%**); this percent result was above 50% as supported by Basheka, Barifaijo & Onyu, (2010) who argues that for an instrument to be valid, it should have a score equal to or above 0.7 (70%)

3.7.2 Reliability

In research, an instrument is regarded reliable only if it produces the same results when applied to the same objects repeatedly (Babbie, 2001). Reliability of the questionnaire instrument, the major instrument for data collection, was assessed using Cronbach's Coefficient alpha. Reliability was ensured through test/retest procedure of the questionnaire. The questionnaire was pretested to 10 respondents of Nyendo-Ssenyage Division of Masaka Municipal Council because the population was homogenous to that of Katwe-Butego Division. The reliability results were computed using the SPSS software and the results were computed and the scores evaluated. A high coefficient implies high reliability, whereas a low coefficient indicates low reliability, (Sekaran, 2003). **See results in Table below**

Table 3.2: Reliability results

Variables	Alpha	Number of Items
Community Participation in Planning	.412	12
Community Participation in Implementation	.792	14
Community Participation in Monitoring – Evaluation	.769	9
Solid Waste Management	.606	23
Total	2.579	58

Source: Field data

The average value of 0.65 was obtained ($\sum\alpha / 4$) where $\sum\alpha$ is summation of alpha scores (2.579) divided by 4 thus the number of variables. Amin (2005), an alpha of 0.5 or higher is sufficient to show reliability.

3.8 Procedure for data collection

After, successfully defending the proposal, the researcher made relevant corrections and preceded to UMI, School of Management Science submitted copies of the proposal and

thereafter was issued with an introductory letter, used to seek for permission from relevant authorities of Masaka Municipal Council and communities through which the study was carried out. The letter of introduction inspired the respondents to cooperate with the researcher. With the assistance of four research assistants, the selected respondents were requested to complete and return the questionnaires within a given period of time. The distributed questionnaires were accompanied with the letter clearly stating the purpose of the study and stressing a statement of confidentiality of the information given.

3.8 Data Management and Analysis

The field data was managed and analyzed as follows;

3.8.1 Qualitative Data Management and Analysis

Face to face sessions were held between the researcher and key informants. Then themes, categories were identified, the researcher evaluated and analyzed the qualitative data to determine the adequacy of information and credibility, usefulness consistency and validation or non-validation of hypothesis. Non numeric data obtained from interviews were analyzed basing on themes to establish trends and relationships from the information being studied and direct quotes were used to strengthen the interpretation. This was used to supplement on the quantitative data captured.

3.8.2 Quantitative Data Management and Analysis

Quantitative data were collected mainly from closed ended type of questions. The researcher ensured that, data managed done as questionnaires were sorted, coded, entered using Statistical Package for Social Sciences (SPSS) and cleaned of errors coded after entry. Quantitative data was analyzed both descriptively and inferentially. Descriptive statistics extracts were run and frequencies, percentages, mean scores, standard deviations were obtained and presented in tabular and graphical form to represent the findings and for

comparison purposes. On the other hand, inferential statistics using the Pearson bivariate-correlation and linear regression used and results obtained thereafter presented. The Pearson bivariate-correlation was used to explain as well as measure the degree and direction of relationships between two variables and the linear regression was to establish whether the variance between independent variable dimensions (Community participation in Planning, Implementation and M&E) predicted effective Solid Waste Management.

3.9 Measurement of variables

The level of measurement refers to the way that a variable is measured. The study aimed at examining the extent to which community participation affected solid waste management in Masaka Municipal council. With a number of measurement in place, the research opted to use the ordinal scale when measuring the quantified indicators of community participation and solid waste management as these were numerically ranked designed based on a 5 item likert scale of *strongly agree (5)*, *agree (4)*, *undecided (3)*, *disagree (2)*, and *strongly disagree (1)* were used. In addition, respondents were asked to tick the most appropriate answer among the several alternatives as all main variable questions were tagged on the level of agreement or disagreement. On the other hand, all demographic information about respondents was measured using nominal scale because it not ranked data.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.0 Introduction

This chapter presents data, analyses and interprets the findings of the study. The chapter is structured as starting with the demographic characteristics of the respondents' response rate, presentation of descriptive statements as well as inferential statistics and hypothesis based on the specific objectives of the study.

4.1 Response Rate

During the course of the study, the researcher with the help of research assistants distributed one hundred fifty four (154) questionnaires of which one hundred forty eight (148) questionnaires were returned.

Table 4.1: Response rate

Instrument	Planned	Actual	Percentage
Interview guide	57	30	52.6%
Questionnaire	154	148	96.1%
Total	211	178	

Source: Primary data

Findings from the table above reveals an overall response rate of **84.36%** ($178/211 \times 100\%$) obtained from the return of both the questionnaires and interviews conducted. According to Amin (2005), argues that a response rate above 70% is good to represent a survey population.

4.2 Demographic Characteristics about respondents

4.2.1 Gender of Respondents

The researcher requested the respondents to indicate their Gender with an intention of purely identifying whether gender plays a key role in solid waste management and the results that emerged are shown in the illustration below.

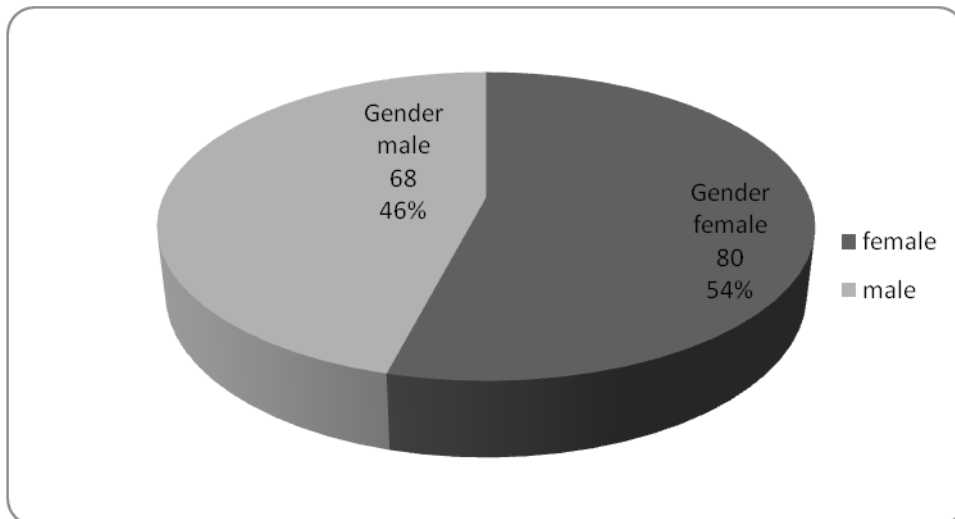


Figure 4. 1: Gender of Respondents

The figure above comprises of both frequencies and percentages about the gender of respondents. Findings reveal that the female (54.1%, n=80) constituted the majority respondents while their male counterparts were (45.9%, n=68). The findings are attributed to the fact that women are naturally gifted and exhibit qualities of being over all domestic role performers and therefore provide a significant role in management of cleanliness an ingredient needed for better solid management.

Secondly, this indicates that views collected were gender balanced as female were 54% and male were 46%. Finally, it should not be forgotten that men mainly provide the manual handling bit of it which involves carrying dust bins, containers, heavy forks, spades, hoes among others where male input is needed.

Its implication is that the combination of both genders contributes to waste management which leads to effective solid waste management programs.

4.2.3 Age and Marital Status of Respondents

The researcher ran a cross tabulation technique so as to determine whether the age and marital status of respondents had a key role on the management of solid wastes in MMC and the findings are presented in the Table below.

Table 4. 2: Cross Tabulation Results for Age group and Marital Status

		Marital Status				Total
		Single	Married	Widow(ed)	Divorced Separated	
Age group	18 -28 years	17	11	0	0	28
	29 -39 years	54	9	2	0	65
	40- 50 years	29	5	3	0	37
	51- 61 years	7	4	2	0	13
	Above 61 years	1	1	2	1	5
Total		108	30	9	1	148

Source: Primary data

Findings from Table4.2 above reveals that majority of respondents accounted for 44% (n=54 single, n=9 married, n=2 widowed) fell between 29 to 39 years, this was followed by 25% respondents (n=29 single, n=5 married, n=3 widowed) fell between 40-50 years while 19% (n=17 singles and n=11 married) fell between 18 to 28 years, with the least respondents 13% (n=8 singles, n=5 married, n=4 widowed and n=1, divorced) fell in the range of 51 years and above.

First and foremost, the researcher was dealing with adults as required by research ethics. Secondly the singles dominated the marital status, as these have no family ties, tend to be

mobile and form the working class hence and energetic age bracket needed to perform the solid waste management activities in urban centers.

Furthermore , the portion the age brackets of 29 – 39 years and 40 - 50 years comprised of the middle and old aged respondents representing the working class groups that have homes and stay in Towns. They are energetic as well compared to that 51 – 61(13%) because this age group in most cases is assisted by the above two groups. While the age group that falls under 18 – 28 years which contributed to 19% is that most of them are believed to be in higher institutions of learning others are interns others have just started working.

4.2.4 Qualification of Respondents

Respondents were of varying education background and to this effect, the researcher requested them to indicate their qualification; the reason for this question was to help the researcher understand the different roles that the respondents contributed towards effective solid waste management in Masaka municipality.

Table 4. 3: Qualifications of respondents

Education Level	Frequency (n)	Percent (%)
Primary	13	8.8
O level	49	33.1
A level	28	18.9
Diploma	28	18.9
Bachelors	21	14.2
Masters	3	2.0
Professional	6	4.1
Total	148	100.0

Source: Primary data

Findings from table 4.3 above reveal that generally all respondents were at least able to read and write. Key findings reveal that 60.8% had obtained Advanced (A) level and below while

35.1% had obtained a diploma and above, with the least (4.1%) having obtained other qualifications (professional courses).

This findings can be attributed to the fact that most of the respondents were literate thus had obtained minimal education which enabled them to fully understand that poor waste management was a danger to the local community and the environment in general, with its related health side effects. In addition, these respondents had an informal understanding of what was expected of them as far as a good environment is concerned in contributing towards a solid waste free town and environment.

4.2.5 Occupation of Respondents

While in the field, the researcher requested the respondents to indicate their occupation, this was intended to collect a wide range of views regarding solid waste management based on the structure of the agents in the environment. Below were the results that emerged.

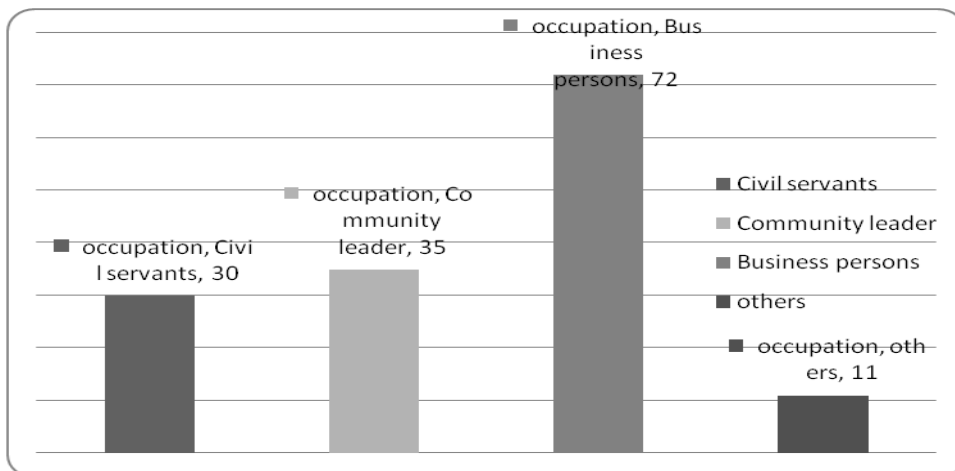


Figure 4. 2: Occupation of Respondents

The illustration above reveals the varying occupation the community and other officials possessed. Results as shown by the figure above clearly indicate that the business persons 48.6% dominated the respondents; community leaders constituted 23.6%, civil servants were 20.3% and the others made up the least 7.4% of the respondents. These results meant the

business community were agents of solid waste in terms of plastics, paper, peels of food stuffs among others that constituted the biggest portion of waste. And in most cases waste skips are placed in the Central Business District (CBD) which accounts for most the waste compared to the rural/ outskirts of the town.

The last two categories were fewer because at times they come to town for work then later return to their homes in the evenings or on weekends. Most of them were not residing in town, however they were included because they contribute a lot to the town and they have a stake in terms of managing waste in the Town. It can be noted that all these stakeholders were needed in contributing towards the management of solid waste because they have valuable information and views and man power.

4.3 Empirical Findings

This section in the study presented both descriptive and inferential findings on Community participation and Solid Waste Management based on the Specific Objectives of the study. It further presents the information (qualitative) from the interviews and answers the hypothesis statement.

4.3.1 Community Participation in Planning and Solid Waste Management

Objective one of the study was to find out how Community participation in Planning affected Solid Waste Management in Masaka Municipal Council. Planning was measured using a number of questions with following responses obtained in return.

Table 4. 4: Descriptive statements on Community Participation in Planning

Statements on Community Participation Planning	Percentage Responses (%)					Mean	Std Dev
	SA (5)	A (4)	N (3)	D (2)	SD (1)		
I am given chance to give my opinion on SWM	32.4	26.4	4.1	23.0	14.2	3.40	1.488
Leaders participate in the planning of SWM	15.5	37.2	17.6	20.9	8.8	3.30	1.215
Councilors discuss SWM plans with their constituents	6.8	20.3	16.9	26.4	29.7	2.48	1.291
Goals and Objectives of SWM Programs as well set	8.1	25.0	25.7	27.7	13.5	2.86	1.176
Developing strategy for message transmission on solid waste is done in accordance to the community	6.1	15.5	23.0	34.5	20.9	2.51	1.163
SWM is a top most priority while planning in Masaka municipality	16.9	21.6	16.2	28.4	16.9	2.93	1.364
SWM plans/programs are discussed in all wards/parish	10.8	21.6	18.2	33.1	16.2	2.78	1.261
Public views in SWM are considered while planning	8.8	27.0	15.5	31.1	17.6	2.78	1.265
The community is aware that poor handling of SW affects their Health directly	37.2	32.4	8.1	14.9	7.4	3.77	1.294
SWM plans once approved are adhered to and enforced	8.8	23	22.3	31.8	14.2	2.80	1.199

Source: Primary Data

Key: SA=Strongly Agree A=Agree N=Neutral D=Disagree SD=Strongly

Disagree and Std dev = Standard deviation.

The ratings presented in the Table above were interpreted as follows: (1) as strongly disagree (SD), (2) as disagree (D), (3) as neither agree nor disagree (N), (4) as agree (A) and (5) as strongly agree (SA). The mean scores less than three (<3) revealing disagree in responses and the scores above three (>3) reveal agree in responses. More, standard deviation scores less than one (<1) reveal communalities in responses and the scores above one (>1) reveal divergences (varying responses). Lastly, both agreed and strongly agreed were combined to represent agreed scores and both disagreed and strongly disagreed were combined to reflected respondents that disagreed.

4.3.1.1 Decision Making (Meetings held)

Decision making was one of the sub indicators for planning. Based on the results obtained, it can be argued that many of the respondents, 58.8% believed that they were given chance to give their opinions on SWM while 4.1% were undecided and 37.2% disagreed respectively. Similarly, a portion of respondents, 52.7% argued in favor that leaders participated in the planning of SWM, only 17.6% were neutral whereas 29.7% respondents disagreed. And 56.1% respondents indicated positively that councilors discuss SWM plans with their constituents, 16.9% were not decided, and 27.1% disagreed. These findings are attributed to the fact that Masaka Municipal Council (MMC) encourages key community participation where many of the stakeholders were encouraged to come, attend a number of set meetings and participate equally through sharing and exchanging of ideas in the development of the municipality hence intended to better the effective management of Solid waste hence staying in a health environment. On planning, it can be said that, a bottom up approach seemed too have been adopted where MMC plans strategically hence views and ideas are brought up for inclusion in goal and objective setting. However, on the issue of whether the councilors discussed issues to do with SWM with their constituents a big margin of 56% disagreed to the response, compared to 27.1% respondents that agreed that they are consulted and 16.9% agreed. The result meant that fewer MMC staff and councilors consulted the community on issues to do with littering waste including plastic bottles, food wastes and polythene bags. In addition, it can also be observed that most of the local leaders after assuming offices seemed not to have gone to the grassroots or the village level to consult and discuss issues pertaining to SWM. However, it can be noted that, the community in CBD was consulted while seeking views to be presented in the budget Conferences. These numeric findings can be supported by qualitative information obtained where one Public Health Officers stressed that,

“To a less extent when at the budget conferences where they give in their proposals on what they want to be done. However, if their proposals rank highest they are taken.”

While another division official said, *“We normally seek for views from all villages and wards during our planning meetings in the months of November, December and January”*

These qualitative results meant that the community still believed that they were not well informed of what was expected of them while planning hence information flow seemed inadequate amongst the locals. They were supposed to be briefed on what they should have done present in the planning meetings in relation to Solid Waste Management.

4.3.1.2 Goals and Objectives

The second sub indicator for community Participation in planning was setting goals and objectives. Questions were asked on whether setting goals and objectives were in line with Solid Waste Management programs and whether they were well set, (41.2%) disagreed, (25.7%) were not sure and (33.1%) agreed. In another question, (45.4%) of the respondents disagreed that developing strategy for message transmission on solid waste is done in accordance to the community; this was followed by (23%) that were neutral and (21.6%) that agreed. Another margin of 45.3% disagreed to the statement that SWM is a top most priority while planning in Masaka municipality, however (16.2%) were undecided and (38.5%) agreed. The failure to set proper goals and objectives was attributed to the fact that the procedure to formulate goals and objectives was not properly observed and the goals and objectives were not SMART, specific, measureable, attainable, reliable and time bound; they were rather complex not specific to ESWM. MMC needs to involve the community in setting goals and objectives if it's to have an ESWMS. This is well evidenced by the mean return of 2.86 supported with a percentage score of 41.2%, it revealed that most respondents disagreed to the question that goals and objectives of SWM programs are well set. In

support of the above findings one interviewee revealed that “*goals and objective setting was a preserve for the technical team not the community*”.

While on developing strategy to transmit messages on SWM is done in accordance to the community’s needs? Findings revealed that the community is not aware. This attributed to the fact that most communication channels by the municipal are insufficient to allow massive dissemination of solid waste messages as most of them were informal in nature as compared to the formal means.

While another said, “*Message transmission is not enough there is need to give regular information on our local radios and public address system.*”

On Prioritization 45.3% respondents disagreed that SWM is among the priorities in MMC while planning. This means that resource allocation in MMC is based on the urgency of the activities; each program is assigned a vote in the budget and when there are delays in the release of funds by the Government, numerous services extended to locals receive a set-back of which solid waste is one of these activities. Further, it can be noted that SWM is not a priority in MMC much as its budgeted for every financial year. SWM operations received less than 8% of the annual budget compared to other policy areas. Findings revealed that the budget for SWM has never been beyond 8% of the annual budgets of the past four years according to the Final accounts of the F/Y 2007/2008, 2008/2009, 2009/2010 and 2010/2011 (7.6%, 5.3%, 4.5% and 4.7%) of Katwe- Butego division. This is far below compared to the 20%-50% that most urban authorities spend on waste (UN-habitant 2010).

4.3.1.3 Community Action Plans

A margin of respondents constituting 45.3% disagreed that SWM plans/programs were discussed in all wards/parishes while 18.2% neither agreed nor disagreed and 32.4% agreed. Similarly, on whether the community is aware that poor handling of SW affects their Health

directly; 22.3% disagreed, 8.1% were not sure while the majority 69.6% agreed. Respondents had mixed views about the question that SWM plans once approved are adhered to and enforced, this item collected the majority with a 46% disagreement, 22.3% were not sure and 32% were positive about the statement. Findings justify that when SWM plans/ programs are drawn they are not presented to the community to enable it follow the activities to be done meaning that there is a communication problem. That is why the community does not follow what has been planned hence the reason of having heaps of waste in most collection places. Still the community also is well informed of the dangers of poor handling of solid waste because a portion of respondents up to 69.6% agreed. This is attributed to the fact that most residents understood the dangers that are associated with poor management of solid waste ranging from air pollution originating from rotten vegetable, leftovers, dust, animal wastes and others. The community is aware of the breeding places from rodents, houseflies and not forgetting mosquitoes, a combination of these are a danger to the community's health in terms of malaria, diarrhea, and cholera among others. In addition to this the environment is also affected negatively as the locals dump wastes in ungazetted sites. To supplement this, an interviewee said,

“Here in Masaka, the big problem lies in people`s mind set. Much as all tools (skips/waste bins) are provided, they are never used; garbage is frequently spilled all over places which makes collection very difficult. The other problem lies in leaderships, political will to enforce discipline which is lacking”.

While another influential leader blamed it on

“Lack of inadequate skips and waste bins in the CBD, poor habits of illegal and indiscriminate disposal and poor enforcement of laws”.

On whether SWM approved plans were adhered to and enforced; most residents revealed that they were not comfortable with MMC because few areas of the division are serviced. That is most probably the CBD and mainly streets are swept daily and trucks transport waste on a daily basis. While the 46% had answered negatively meaning that they are not satisfied with MMC this could also be that they stay in the outskirts of the town where trucks rarely reach in that MMC takes long to remove/ to collect the waste from the dumpsites.

In terms of comparability and using the mean scores obtained, out of the 13 questions whether the community is involved in planning for SW, only 3 questions, obtained scores above 3 which means most questions were answered in a negative way. This is a true picture that MMC does not involve the community in planning for solid waste management.

Generally to ensure an effective solid waste management plan MMC should encourage community participation in creating a good environment for its populace. In creating a good environment MMC cannot go it alone it needs partnership because it's the only way it can improve on service coverage for waste collection. This can be done by enforcing laws and involving other stakeholders. According to Scott 1995, Laws and Regulations are made by people to ensure sanity in society, therefore it is necessary for MMC to enforce, monitor and apply sanctions when necessary to control indiscriminate disposal of waste.

4.3.1.4 Correlation results for Community participation in Planning and Solid Waste Management

In order to establish whether planning was related to solid waste management, the Pearson product correlation moment technique bi-variate correlation in particular was used.

Table 4. 5: Correlation Results for Community Participation in Planning and Solid Waste Management

	Planning	Solid Waste Management
Planning Pearson Correlation	1	.179**
Sig. (2-tailed)		.029
N	148	148
Solid Waste Management Pearson Correlation	.179**	1
Sig. (2-tailed)	.029	
N	148	148

*. Correlation is significant at the 0.05 level (2-tailed).

Source: primary data

Table 4.5 above, comprises of correlations results for Planning and Solid Waste Management in MMC. Findings obtained ($R=.179^{**}$) reveal a positive relationship between the two variables meaning that encouragement of more consultative meetings where participants exchange ideas, identifying vulnerable areas where the waste problem originate, setting of goals and objectives that are specific, measurable, attainable, reliable and time bound coupled with the timely scheduling of achievable action plans were likely to bring about ESWM. This implies that a cleaner environment and controlled wastes will be achieved hence a better living environment for the local community.

4.3.1.5 Linear Regression Results for Planning and Solid Waste Management

A linear regression technique was used by the researcher to determine the variation of planning had on the solid waste management in MMC and the results obtained are reflected in the table below.

Table 4. 6: Regression results for planning and Solid Waste Management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.179 ^a	.032	.025	.58962

a. Predictors: (Constant), Planning

Table 4.6 comprises of the model summary with R, R², adjusted R² and standard estimate of error, the adjusted R square is considered a better population estimate, useful when comparing the R square values between models with different numbers of independent variables. The Adjusted R² obtained value of .025 reflects a 2.5% variance that planning had on Solid Waste Management. The percentage of 97.5% was attributed to other factors. This implies that planning involving Community participation had a positive effect on the Solid Waste Management.

Hypothesis 1: Community participation in planning significantly leads to Solid Waste Management. Based on the results obtained, it revealed a significant effect of n planning on Solid Waste Management, hence the alternate was accepted and null rejected.

4.3.2 Community participation in Implementation and Solid Waste Management

To examine the effect of Community participation in Implementation affected Solid Waste Management in Masaka Municipal Council. Implementation was measured using community mobilization, situation analysis, realization of community action plans and dissemination of information

Table 4. 7: Descriptive statements on Implementation

Statements on Implementation	Percentage Responses (%)					Mean	Std Dev
	SA (5)	A (4)	N (3)	D (2)	SD (1)		
Local leaders mobilize the community to participate in Solid Waste Management	23.6	36.5	17.6	15.5	6.8	3.45	1.203
There are watchdogs to oversee how waste is disposed of	4.1	16.9	11.5	33.1	34.5	2.23	1.207
There is a specific day set for cleaning up to solve the problem of solid waste management	6.8	12.8	12.8	38.5	29.1	2.30	1.209
Local leaders encourage the community to subscribe to waste collections	4.7	18.9	16.9	34.5	25.0	2.44	1.191
Youth, widows, women and disabled are involved in solid waste management programs	6.1	17.6	22.3	25.7	28.4	2.47	1.242
My community disposes off solid waste management	10.1	18.2	11.5	38.5	21.6	2.57	1.289
Stakeholders are involved in the collection of Solid Waste	6.8	26.4	19.6	32.4	14.9	2.78	1.188
Formal and Informal training are provided to communities in MMC	7.4	17.6	14.2	31.1	29.7	2.42	1.283
Solid Waste Management views are discussed in the communities	3.4	26.4	30.4	25.0	14.9	2.78	1.098
Local leaders organize individuals and groups to collect garbage from their premises	6.8	24.3	11.5	33.8	23.6	2.57	1.273
Communities in Maska Municipality participate actively in Solid Waste Management	8.1	17.6	12.2	43.2	18.9	2.53	1.215
Masaka Municipal Council often participate in keeping public areas around their neighborhoods clean	13.5	49.3	10.1	16.1	10.1	3.39	1.210
There is community awareness of sponsored special campaigns to raise the profile of SWM	2.7	14.2	25.0	27.0	31.1	2.30	1.135
Local authorities in Masaka Municipality always mobilize their residents on SWM issues	7.4	29.1	18.9	23.0	21.6	2.78	1.282

Source: Primary Data

The ratings presented in the Table above were interpreted as follows: (1) as strongly disagree (SD), (2) as disagree (D), (3) as neither agree nor disagree (N), (4) as agree (A) and (5) as strongly agree (SA). The mean scores less than three (<3) revealing disagree in responses and the scores above three (>3) reveal agree in responses. More, standard deviation scores less than one (<1) reveal communalities in responses and the scores above one (>1) reveal divergences (varying responses). Lastly, both agreed and strongly agreed were combined to represent agreed scores and both disagreed and strongly disagreed were combined to reflected respondents that disagreed.

4.3.2.1 Community Mobilization

Results from the Table above indicate that 60.1% respondents agreed to the statement that Local leaders mobilize the community to participate in Solid Waste Management; this was followed by 17.6% respondents that were not sure and 22.3% that disagreed. In addition, are there watchdogs to oversee how waste is disposed of were another question posed, with 67.6% disagreeing, 11.5% were neutral and 21% agreed respectively. When asked whether there was a specific day set for cleaning up to solve the problem of solid waste management; 57.6% did not believe, 12.8% had no side and 19.6% believed. Further still, other views collected included; 59.5 that disagreed, 16.9% that were neutral and 23.6% that agreed that Local leaders encouraged the community to subscribe to waste collections. Majority of the respondents 54.1% argued against the statement that youth, widows, women and disabled are involved in solid waste management programs, 22.3% were not decided and 23.7% agreed. The collection of the above statistics can reveal that the community was well identified, contacted and mobilized on how to effectively manage their waste including sewage bursts, dust bins, littering domestic food wastes and plastic materials among others. This meant that at individual level the community especially at household level get involved in various activities that include: removing waste, keeping it in a proper way and then

offering it to the collection point (pits or skips) and also cleaning areas around their houses/premises or neighborhood.

However, there is an interesting question of having watch dogs in place to which 67.6% respondents disagreed meaning there seemed no assigned people within the local community to guide or to direct the community on how best to dispose of waste to the collection centers. Thus they could not (MMC) blame anyone for wrongful / indiscriminate disposal of waste. In addition, there seemed need for MMC to create more close partnership with the community and have scouts to monitor the community on how they could store and collect their waste to the disposal sites. Activities that scouts should take on include; waste generation, sorting, storing waste in a proper way in bags or bins, separate recyclables or organic from other waste and taking waste at the collection place at the right time. Environmental community committees can be formed to help in this problem area.

On the issue of having a specific day for cleaning, only a sizeable number of respondents amounting to 19.6% agreed that, the day is set but it seems it was not well publicized for the community to participate. And when the day comes only a few residents in the CBD, municipal staff and a few councilors participate in the cleaning. This finding has a link to what one of influential leader said. *“Like in Fort Portal and Jinja Municipal Councils they have a day for general cleaning, MMC also approved every last Friday of the month”*. Investigations revealed that general cleaning used to be practiced sometime back but it somehow stopped due to unclear reasons and in addition to this very few members of council and the community know about it!

While on subscription results revealed that waste collection and disposal was the responsibility of the municipality that they did not pay any fee for waste collection apart from established entities like hotels that pay for the removal of their waste. The reason why

they pay is that they generate a lot of waste and if waste is not collected from their premises it affects their businesses. This is supplemented by what one council official stressed that *“the Issue of paying for SWM is not attainable unless when it’s indirect”*.

While another interviewee said that *“I believe that if the services for solid waste management are paid for, it can reduce on the gap of inadequate funding by government”*.

MMC needs to cut on costs by introducing an affordable waste fee. One way to make the waste system financially viable and ensure continuity, is setting up an effective fee collection system (Moningka, 2000)

It was also evident that SWM programs seemed not to involve a number of stakeholders in MMC thus fewer organized groups like the youths, widows, women and the disabled. For purposes of solving unemployment in the municipality the youth and especially women need to be brought on board because they play a very active role and carry out most of the daily activities in the neighborhood communities. However the good news according to one councilor is that *“in the Central and Sazza Markets, they have organized groups that collect waste from their premises to a convenient place for disposal”*

4.3.2.2 Situational Analysis

Majority of the respondents 45.3% did not believe that stakeholders were involved in the collection of solid waste however 19.6% were not sure while 33.2% agreed. Formal and Informal training are provided to communities in Masaka Municipal council was another question posed to the respondents, the majority was 60.8% disagreed but 14.2% were neutral and 25% agreed. 30.4% respondents were not sure about the statement that solid waste management views are discussed in the communities by Masaka Municipal council, 29.8% agreed and 39.9% disagreed. The findings revealed that the community seemed not advised on how best to manage waste within their premises and where to take it thereafter. However the business community in the CBD organize themselves to collect and remove

waste to any collection point. The same applies to households who do it voluntarily to remove waste from their homes without minding their neighborhoods thus the syndrome of Not In My Back Yard (NIMBY) that result into indiscriminate disposal.

The community needed to organize itself in preventing people from indiscriminate disposal by putting a few writings/ warning the public of not disposing waste in specific areas warning them if caught they would be fined a specified amount of money.

While on whether formal and informal trainings are provided to the community, MMC does not have streamlined programs to sensitize the community on how to avoid contaminating the environment to create an effective solid waste management. However In a face to face discussion with one of the Public Health Officers it was noted that the community is sensitized by Village Health Trainers (VHTs), VHTs are found in all villages of the division. This means that VHTs are not effective in carrying out their duties much as each village has two VHTs. While another interviewee lamented that, *“There is no formal training because of inadequate funding: environment issues are not given enough funding due to competing priorities”*. Informal and formal trainings should be introduced in schools and other institutions to help spread the effects of poor waste handling.

It was also noted that MMC does not discuss SWM views and issues on how they would wish to handle the cleanliness for their neighborhoods. Communication strategies of moving door to door by health inspectors to motivate the community on how to manage waste and awareness campaigns on how to separate waste should be advocated for by MMC. Community meetings should also be convened to discuss how to handle waste for purposes of having a clean environment. The findings are supported by what one interviewee explained that, *“Indeed public awareness was limited and people do not get it regularly”*

While another Interviewee a Senior Community Development Officer said, *“Awareness is not enough there is need to give regular information on our local radios and public address systems”*.

4.3.2.3 Realization of Community Action Plans

Furthermore, a portion of respondents 57.4% were not in favor of the statement that Local leaders organize individuals and groups to collect garbage from their premises, 11.5% were not sure and 31.1% agreed. Majority of the respondents answered negatively that Communities in Masaka Municipality participate actively in solid waste management; this response was followed by 12.2% that were neutral, while 25.7% answered in the affirmative

The findings revealed that local leaders did not organize the community on how to implement action plans that were developed. The community is supposed to be engaged in the actual activities of creating a clean environment in their neighborhoods. They stakeholders Youth, Women, Disabled and Religious bodies should pronounce that everyone generates waste which is a problem thus it should be everyone’s responsibility to contribute to the solution of generating waste. The activities include; managing waste from source to disposal level. The community has also contributed by providing their land / open spaces as collection areas where at times skips are placed which is a very good gesture. MMC should also put mechanisms of enforcing the community to dispose waste in an orderly manner other than the indiscriminate disposal to achieve an effective solid waste management program. This is supported by one of the interviewee who stressed that,

“Much as we have strong policies in place like environmental laws that enforce sustainable development, like the public health Act and Masaka Municipal bye – law 2010. They have not been adequately enforced and in addition to this few people are taken to court. Hence the reasons why people still dispose waste indiscriminately”.

Another influential political leader said,

“There is a problem with the enforcement department ,they are few in number and that the non-functionality of the MMC count has rendered them a big problem. If the problem is not addressed the environment will continue to degenerate”.

4.3.2.4 Dissemination of Information and Campaigns

Masaka Municipal council participates in keeping public areas around their neighborhood clean was another question answered by respondents and the answers given were as follows; 27% of the respondents agreed, 10.1% were not decided while 62.8% disagreed. Majority of the respondents 58.1% disagreed to the statement that the community was aware of sponsored special campaigns, competitions to raise the profile of solid waste management, 25% were neutral and 16.9% agreed. Views were collected about the item local authorities in Masaka Municipality always mobilize their residents on solid waste management issues; results included; 44.6% respondents that disagreed, 18.9% were not sure however a slightly big margin accounted to 36.5% of the respondents were in favor of the statement.

The meaning of these findings is that much as it is true MMC places skips and transports waste to the dump sites but not timely. MMC took longer to remove the waste from the collection sites to the dumping sites. And in most cases skips are located in public or open spaces which are always with uncollected waste. About campaigns or competitions to raise a profile of solid waste 58.1% said it's not true because institutions like schools have not been involved in such campaigns. However, it was also revealed that at times the army from Kasijjagirwa Barracks particularly on Tarehe sita come out to clean the town while another interview explained that *“NEMA has of recent come up with a Clean Development Mechanism (CDM) to treat waste and recycle them”*. Investigation

also revealed that UN- Habitant had also given a hand by providing a tractor and its accessories to help in the transportation of waste.

Another interviewee submitted that,

“The communication is not so good other institutions might not even be aware of what the public health department does and they strongly believe that management of waste is a responsibility of the public health department”.

Other stakeholders like CBO’s and religious leaders should be involved in the campaign to keep MMC clean because they command large armies of followers where sanitation information can be conveyed.

Generally using the mean returns obtained, out of the 14 questions that inquired whether there is community involvement in the implementation of SWM programs, only 2 questions scored more than 3. While the rest of the questions the respondents indicated that the community is not involved in the implementation of SWM. This is evidence enough to tell that the community does not participate in the implementation of SWM programs in MMC.

4.3.2.5 Correlation results for Implementation and Solid Waste Management

In order to establish whether implementation was related to solid waste management, the Pearson product correlation moment technique bi-variate correlation in particular was used.

Table 4. 8: Correlation results for Implementation and Solid Waste Management

		Implementation	Solid Waste Management
Implementation	Pearson Correlation	1	.595**
	Sig. (2-tailed)		.000
	N	148	148
Solid Waste Management	Pearson Correlation	.595**	1
	Sig. (2-tailed)	.000	
	N	148	148

*. Correlation is significant at the 0.05 level (2-tailed).

Source: primary data

Table 4.8 above, comprises of correlations results for Implementation and Solid Waste Management in MMC. Findings obtained ($R=.595^{**}$) reveal a positive relationship between the two variables meaning that improved community mobilization, followed by analysis of the current and future situation, designing achievable community action plans and exchanging of information among stakeholders would result into effective solid waste management. Its implication is that when there is collaboration between MMC and the community at the implementation stage, the more solid waste is managed effectively in terms of generation, storage, collection, transportation and disposal the less expenses in terms of trips of waste generated, timely collection, thus leading to healthy living environment/livable town.

4.3.2.6 Linear Regression results for Implementation and Solid Waste Management

A linear regression technique was used by the researcher to determine the variation of implementation had on SWM in MMC and the results obtained are reflected in the table below.

Table 4.9: Regression results for Participation in Implementation and Solid Waste Management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.595 ^a	.354	.349	.48181

a. Predictors: (Constant), Participation in Implementation

Table 4.9 comprises of the model summary with R, R², adjusted R² and standard estimate of error, the adjusted R square is considered a better population estimate, useful when comparing the R square values between models with different number of independent variables. The value of Adjusted R² obtained of .349 reflects a 34.9% variation the implementation has on solid management. The percentage of 65.1% was attributed to other factors. This implies that implementation involving community participation had a positive effect on solid waste management.

Hypothesis 2: Community involvement in the implementation of solid waste management programs significantly affects the management of solid waste. Results obtained reveal a significant effect that Community participation in Implementation had on Solid Waste Management, hence the null was rejected and the alternate accepted.

4.3.3 Monitoring & Evaluation and Solid Waste Management

The researcher came up with a number of questions about M&E linked to participatory monitoring tools, reporting skills, evaluation and findings were asked of which the responses given are reflected in Table 4.10 below.

Table 4. 10: Descriptive statements on Monitoring and Evaluation

Statements on Monitoring & Evaluation	Percentage Responses (%)					Mean	Std Dev
	SD (1)	D (2)	N (3)	A (4)	SA (5)		
Masaka Municipal council invites stakeholders to discuss Solid Waste Management issues	18.9	35.1	24.3	16.2	5.4	2.54	1.133
Masaka Municipal council has a time table for collection of solid waste	14.9	25.7	20.3	29.7	9.5	2.93	1.293
Recording performance of Solid Waste Management is done regularly	16.9	25.0	33.1	19.6	5.4	2.72	1.125
Tracking the level of garbage collection is done on a daily basis in Masaka Municipal council	20.3	25.7	21.6	23.6	8.8	2.75	1.266
Masaka Municipal council discusses the findings and evaluates results on Solid Waste Management	24.3	21.6	31.8	14.2	8.1	2.60	1.227
Community participation in the implementation of Solid Waste Management project is promising	18.9	33.1	15.5	22.3	10.1	2.72	1.283
The community of Masaka Municipal council performs their role to have a solid waste free town	18.9	33.1	12.2	28.4	9.5	2.78	1.302
Constant assessments and corrective actions are made through the community	20.9	41.2	21.6	13.5	2.7	2.36	1.043
Information about Solid waste is gathered using qualitative techniques like Focus Group Discussions	30.4	31.8	27.0	9.5	1.4	2.20	1.021

Source: Primary Data

The ratings presented in the Table above were interpreted as follows: (1) as strongly disagree (SD), (2) as disagree (D), (3) as neither agree nor disagree (N), (4) as agree (A) and (5) as strongly agree (SA). The mean scores less than three (<3) revealing disagree in responses and the scores above three (>3) reveal agree in responses. More, standard deviation scores less than one (<1) reveal communalities in responses and the scores above one (>1) reveal divergences (varying responses). Lastly, both agreed and strongly agreed were combined to represent agreed scores and both disagreed and strongly disagreed were combined to reflected respondents that disagreed.

4.3.3.1 Participatory Monitoring Tools

Numerous questions were posed about participatory monitoring tools and varying responses were given. For instance a proportion of 54% respondents disagreed that Masaka Municipal council invites stakeholders to discuss solid waste management issues, 24.3% neither agreed nor disagreed and 21.6% agreed. Similarly, 40.6% respondents indicated negatively that Masaka Municipal council had a time table for collection of solid waste however, 20.3% respondents were not sure and 39.2% agreed.

The findings are that there is no feedback. There is no systematic information that is given to the community to rectify the problem that is why 54% disagreed to the statement. The community that generates waste needs to be invited formally to bring in their ideas on how solid waste should be managed on the daily basis. MMC needs to gather information on the status of SWM in the community to enable it take appropriate adjustments to have an effective solid waste management system.

It is also evident that there is no time table that is followed to collect waste from the community because 40.6% disagreed while 20.3% did not have the answer. And 39.2% agreed that there is a time table. This means that some residents acknowledge that there are routine routes which the trucks follow to pick waste daily like on main streets. These findings are supplemented by what the Public Health Officer explained,

“I carry out a situational analysis daily with regard to solid waste accumulation, Identify areas that need management then inform the town clerk of how big the problem is for him to release fuel for the days’ work”.

This statement means it was not automatic that a skip at place B would be picked the next day. It will have to depend on the accumulation of waste from other places and only if fuel is

available and the trucks are functional. It was also established that a team of 7 porters and a driver routinely collect waste from the community to the dumping site every day. However the routes of the trucks depend on the Public Health Officer's discretion. This meant that schedules are drawn but other factors also have a lot to contribute on the timeliness.

4.3.3.2 Reporting Skills

On whether recording performance of solid waste management is done regularly, 41.9% disagreed, followed by 33.1% that were undecided and only 15% that agreed. In addition, many respondents equivalent 46% disagreed that tracking the level of garbage collection was done on a daily basis in Masaka Municipal council compared to 21.6% that were not decided and 32.4% who agreed. Further, Masaka Municipal council discusses the findings and evaluates results on solid waste management had the following scores; thus 45.9% that disagreed, 31.8% that were neutral and 22.3% that agreed.

These findings confirm that there is no recording performance; no tracking the level of garbage collection neither does MMC discuss findings and evaluate results. There is no regular reporting on the accumulation of waste, collection and transporting of waste in place. The actors here are comprise of the community, operators and management who need to be equipped with reporting skills who should be assigned the task of reporting what is happening on ground, such that MMC makes plans according to the situation in the field. Community/ village committees for SWM can also be formed and be brought on board after being sensitized on what is required of them. To avert this appalling situation MMC needs to devise a mechanism of collecting data on the performance of SWM to enable it draw lessons and later make recommendations on how to improve in terms of monitoring and evaluation. The findings are related to what one councilor who stated that “ *about 60% of the waste is collected and disposed of*” While another interviewee *also measured MMC*

below 50%. This means about 50% or so of waste is not collected it is left in the community which has led to the unhealthy environment in MMC.

4.3.3.3 Evaluation and Findings

Findings obtained reveal that a big margin of respondent, thus equivalent to 62.1% disagreed to the statement that constant assessments and corrective actions are made through the community, followed by 21.6% respondents that were not sure and 16.2% respondents that agreed. Lastly views collected on whether information about Solid waste is gathered using qualitative techniques for instance Focus Group Discussions yielded: 62.2% that disagreed while 27% neither agreed nor disagreed and 10.9% respondents agreed

The above statistics reveals that MMC still has a very big task of ensuring and linking the community to SW activities because it does not carry out corrective actions neither does it carry out focus group discussions for corrective measures. Any attempt to sideline them results into failure to fulfill the MMC SW targets. Further, MMC was found to carry out corrective actions inadequately, traces of inefficiency have been noted. This inefficiency was blamed on the poor funding that has not increased as expected year after year. One interviewee said the problem is *“linked to the miscellaneous bye-law of MMC 2010 with implementation challenges.*

While, one of the law assistant enforcement officers observed that,

“MMC should resort to the culture of involving the community in waste management by assigning duties in SWM and also to have specific days in which they participate and also give incentives to those who participate”.

In terms of comparability and using the mean returns all the questions posed were answered in a negative way. All the scores obtained were less than 3 which means the community was

not in agreement to the questions that the community is involved in the monitoring of solid waste activities in MMC. MMC needs to come up with bye-laws, policies in SWM that encourage the community to participate. It can also think of privatizing waste collection such that MMC takes on the role of supervising, monitoring and evaluation. The findings can be deliberated on to find solutions to bridge gaps identified to contribute to an efficient solid waste management program for purposes of having a solid waste free Town.

4.3.3.4 Correlation results for M&E and Solid Waste Management

In order to establish whether M&E was related to effective solid waste management, the Pearson product correlation moment technique bi-variate correlation in particular was used.

Table 4. 11: Correlation Results for M&E and Solid Waste Management

		M&E	Solid Waste Management
M&E	Pearson Correlation	1	.431**
	Sig. (2-tailed)		.000
	N	148	148
Solid Waste Management	Pearson Correlation	.431**	1
	Sig. (2-tailed)	.000	
	N	148	148

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Primary data

Table 4.11 above, comprises of correlations results for M&E and Solid Waste Management in MMC. Findings obtained (R=.431**) reveal a positive relationship between the two variables meaning that when MMC and the community make use of participatory monitoring tools for instance focus group discussion, interview checklist among others, followed by availing field reports and timely evaluation leads to an effective solid waste management system. Its implication is that ideas about the objectives and activities of SWM

will closely be followed and the efficiency would be registered hence translate to a good environment/livable town.

4.3.3.5 Linear Regression Results for M&E and Solid Waste Management

A linear regression technique was used by the researcher to determine the variation of M&E had on the SWM in MMC and the results obtained are reflected in the table below.

Table 4.12: Regression results for M&E and Solid Waste Management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.431 ^a	.185	.180	.54090

a. Predictors: (Constant), M&E

Table 4.12 comprises of the model summary with R, R², adjusted R² and standard estimate of error, the adjusted R square is considered a better population estimate, useful when comparing the R square values between models with different number of independent variables. The value of Adjusted R² obtained of (.180) highlights an 18.0% variation M&E had on solid waste management in MMC. On the other hand, the percentage of 82% was attributed to other factors not part of the research. This implies that M&E involving community participation had a positive effect on SWM.

Hypothesis 3: *Involving the community in monitoring and evaluation significantly affects solid waste management.* Results obtained reveal a significant effect of M&E on the solid waste management. It can therefore be noted that the null was rejected and the alternate accepted.

4.4 Regression Matrix results for Community Participation and Solid Waste Management in MMC

The researcher used the regression matrix techniques in order to ensure that variation results for planning, implementation and M&E were obtained as shown in the Table below.

Table 4.13: Regression Matrix Results for Community Participation and Solid Waste Management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.639 ^a	.408	.395	.46441

a. Predictors: (Constant), M&E, Planning, Implementation

Table 4.13 above comprises of the R (.639), R^2 (.408), adjusted R^2 (.395) and the standard error of the estimate at (.46441). As observed from the Table above, the adjusted R square explains how a set of independent variables explains variations of a dependent variable (Amin, 2005). This implies that 39.5% (.395*100%) of variation in Solid waste management of MMC was explained by the planning, implementation and M&E functions of community participation, with the rest of the percentage (60.5%) attributed to other factors.

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary, discussion of findings, recommendations and conclusions. Further, it includes limitations, areas of further study and contributions of the study based on specific objectives of the study.

5.1 Summary

These below reflect the summaries obtained during the field study based on the specific objectives.

5.1.1 Community participation in Planning and Solid Waste Management

In summary, planning was positively related ($R=.179^{**}$) to the effective solid waste management. It can be noted that the community was rarely encouraged to attend consultative meetings through the Local councils, Locals or participants rarely exchanged ideas on solid waste dumping. The community was not involved in problem identification in SWM associated problems; setting of goals and objectives was not sufficiently done. Objectives were not specific, measurable, attainable, and reliable and time bound. While action plans were drawn by the planning and health department but they are not timely to cause any impact in creating a healthy environment. Further, a cleaner environment with a well streamlined way of handling wastes by the community creates a better health living environment for the local community in Masaka Municipal Council

5.1.2 Community participation in Implementation and Solid Waste Management

It can be noted that improvement in community mobilization, through situation analysis, designing achievable community action plans and exchanging and provision of awareness information among stakeholders all ingredients of implementation were positively related ($R=.595^{**}$) to solid waste management. Similarly the fast and timely dissemination of

information and implementation of strategic plans by the concerned stakeholders; if community participation is taken as a priority in implementing SW activities (collection, transportation and disposal) it results into improved health living environment in MMC.

5.1.3 Community participation in M&E and Solid Waste Management

Results obtained from chapter four reveal that M&E and solid waste management were related positively ($R=.431^{**}$). It can be noted that participatory monitoring tools using focus group discussion, interview checklist and observation among others were used to elicit information from the community.

Reporting what was happening in the field by the technical staff to management was not properly done. MMC does not know the amount of waste that is collected or transported to the landfill. Neither evaluation nor findings were presented to management to enable it take appropriate solutions to the problems in the field. Monitoring is a complex process that needs to be simplified to both the staff of MMC and the community. Roles also need to be allocated to the various stakeholders. In this case community participation was not involved in MMC hence the poor management in solid waste management.

5.2 Discussion

5.2.1 Community participation in Planning and Solid Waste Management

Findings obtained in the previous chapter reveals that community participation in planning and SWM were linked to one another positively. Effective and efficient solid waste management requires an integrated approach where all stakeholders are expected to play a role at all the stages to creating a healthy environment in their neighborhood. Although municipalities cannot escape the blame, everybody is part of the waste problem so everyone should be part of the solution (Antwi, 2008).

This study reflected by the majority positive responses shows that the community is consulted during planning meetings that normally occur in the months of November, December and January and the ideas/ issues are presented in the Municipal budget conferences. Consultation may involve only representatives of the community (councilors) or all sections of the community. MMC uses the former but the latter is more effective because it involves all stakeholders like the youth and women who are at the centre of handling waste at the household level. In addition to this issues are not well stipulated because guidelines are not provided to enable the community to properly profile their interests, problems, challenges and solutions to the dangers of poor waste handling.

In addition, a proportion of respondents agreed that the goals and objectives were set, but as reflected by the minority with disagreed scores, it can be said that, the strategy to transmit the message back to the community seemed lacking which has contributed to the inefficiency of having a solid waste free town. The manner in which consultation is done determines the outcome for example if they do not consult the community, whose needs will be assessed? Who will be the beneficiary in SWM programs that requires behaviour change in cleaning, separation at source, recycling and composting? Preliminary studies are important in enabling management to take the right action.

Further still, respondents constituting the majority indicated positively that action plans or activities were drawn out of the issues that were presented in the budget conferences which are incorporated into the Annual budget. However, of these respondents a fraction disagreed indicating that the problem seemed to have been that the activities were not channeled back to the community to follow what was identified as their problem thus no support is rendered by the community because they were not guided on what was expected of them and what would be implemented as far as waste handling was concerned hence a communication gap. In addition, the absence of appropriate guidelines for optimum public

participation in decision-making was seen as a source of confusion and lack of direction rendering it impossible to deliver on waste minimization, reduction recycling and re - use program as indicated by the scholarly literature held in chapter two by Mazingo (2009).

More still, it is the responsibility of the Municipality to ensure the community participates. And in order to have the community participate, Masaka Municipal Council has to develop a Waste Information System (WIS) or Guidelines which formally spells out ways how to handle waste products re- usable recyclable and less toxic for all stakeholders.

The quantified findings presented previous of this research are similar to a study carried out in Buffalo City Municipality (BCM) in 2008. Where the Report highlights that to listen to the community at committee meetings where ideas interests and challenges of the community were documented. And as a rule BCM community service standing committee was the platform through which all issues relating to SW were discussed and integrated into the environmental and public health sector were planned and deliberated for future consideration by the mayoral committee which would later present pertinent issues in council. There after a resolution is made and follows the same step back to the community through the representing councilors. The resolution would be presented to the community by the standing committee with a representative of the Solid Waste Department .

Policy development in Masaka Municipal council seems to be lacking the much needed inclusive decision making element. In that there is low community participation as demonstrated in Katwe – Butego division on issues to do with SWM decision making and the planning process. That is why it's common to see and find waste disposed of indiscriminately in the town.

Lastly, the findings obtained in the previous chapter held that Masaka Municipal council had the mandate to enforce planning schemes with a majority agreement, but as reflected by

the disagreement score, it can be argued that, the council might have failed to do so to contribute to ESWM. The regulatory pillar of the Institution theory by Scott helps to shape human behavior through sanctions that need to be invoked to achieve the expected results.

5.2.2 Community participation in Implementation and Solid Waste Management

The findings of this study indicate that community participation in handling of Solid Waste Management drastically reduces compared to the planning stage. There is absence of community mobilization by the political representatives/councilors. There is no continuous flow of information guiding the community of what is expected of them in as far as poor waste management can contribute to the environment. That is why there is indiscriminate disposal of waste in the municipality.

Results obtained earlier reveal that much as respondents agreed that there was the realization of community action plans can hardly be achieved, however, there a few pockets that disagreed to the statement because the community neither MMC had not identified people / formed committees that could help in guiding the locals or people on how waste could be handled at the household level hence a personnel gaps to the management of Solid Waste in MMC.

In addition to the above, it can be said that MMC had not formulated any bye laws to compel the community behave in a desired way that leads to effective Solid Waste Management. There seemed to exist the post-colonial thinking where municipalities solely take the responsibility of delivery of services, like the removal of waste to the disposal level without paying any user fees.

Reflected by the earlier findings, it can be argued that many of the respondents agreed that stakeholders like schools women and the youth have not been integrated into the

management of waste. Awareness campaigns to disseminate information about the benefits of waste handling in the appropriate way are also insufficient and lacking as indicated by Moningka (2000). However, a few people participate in various ways in the management of Solid waste especially at household level. The activities that they carry out include: cleaning areas around their premises, storing waste in a proper way like in containers or bins or polythene bags and taking waste to the collection sites. However there are few gazetted collection sites, in the community and no designated time for the community to take their waste. Everyone one disposes of waste at different times but mostly it is done by children and house maids late in the evening and at night. This category of people just dump waste indiscriminately at times even when the skips are empty they pour it outside the skips that result into scattered waste around the collection sites.

To elaborate further, MMC as reflected by the positive responses obtained during the study seemed to be responsible for ensuring the taking, removing, transporting and disposing of waste to the landfill. Much as there are areas which are not serviced because of impassable roads in others places, waste remains uncollected due to unplanned collection schemes and the rate at which waste accumulates is beyond the Municipalities capacity which result into scattered waste in the town. In addition to this the three old trucks (1 Benz and 2 Tatas) are at times not functional. Luckily enough there is a functional tractor that helps in transportation. But they are not enough to carry out an effective job because they have to be shared with the other division of Nyendo –Ssenyange. All this contributes to overflowing of waste in collection points and ungazetted areas. This kind of situation leads to unsanitary conditions where drainages get blocked and indiscriminate disposal of waste thus polluting the environment hence a pending problem.

For purposes of ensuring that the community in MMC is committed, a strategy of preventing and minimizing waste generation and the importance of sorting waste at household level is required for an effective household waste management strategy.

Responses obtained revealed that MMC had put in place efforts geared towards establishing and developing of composting initiatives, collection centers for recyclable waste, transfer stations and collection of segregated waste should be introduced. Otherwise if the sorted waste is not collected the sense for the community to segregate it will be lost. This also creates or solves unemployment to the youth and women. One of the registered success stories is that of the C-section, Duncan village South Africa study as indicated by Mazinyo, (2009). This was a successful intervention where they introduced a strategy of preventing and minimizing waste generation and advocating for sorting mechanisms. This however, reveals that the sites were located in far distances which necessitated better road network hence still missing in the Municipal council hence a challenge.

Awareness campaigns can also help communities to contribute to the development of an ESWM system provided that they will be familiar with both challenges facing their own environment and the benefits from the drawn Action Plans. This kind of thinking is in line with that of the previous study by Antwi, (2000) carried out in Accra - Ghana, who warned that though awareness, creation and education measures may positively or negatively bring about attitudinal changes. Improved SWM can hardly be changed in the absence of comprehensive and viable SWM options. Therefore, coordination and improvement in waste collection services becomes essential. In the same way the regular ways in which people generate, collect and dispose of waste are influenced by those of the neighbour. So those who practice accordingly become watch dogs / good trainers to others.

This study established a relationship between community participation in the event of implementing SWM programs in MMC. Lack of bye-laws and, poor enforcement and commitment to doing the right thing leads people to act as they wish. This is related to the role of the normative pillar because without laws and regulations there is no direction of how things should be done. In the same vain the Waste Management theory that advocates/assumes the community to work in Partnership for a sustainable environment is right but in this case it has not worked to prevent waste on streets and in public places. Because the community is not involved in the management of waste the reason for this was that there was poor community participation in the implementation of SW programmes.

5.2.3 Community participation in Monitoring and Evaluation and Solid Waste Management

Monitoring and evaluation is a continuous implementation process that is carried out to ascertain whether the project is progressing on well. The purpose is to identify challenges in the implementation of the project such that remedies can be taken accordingly.

Results obtained reveal a significant effect that when the community is involved in monitoring and evaluation in the management of solid waste the efficiency improves. In addition, there was no systematic way of getting information on SWM from the community. Focus group discussions are a good avenue which the municipality should set up to enable the community to identify area specific problems collect and analyze information and then generate recommendations that improve SWM. Squire (2006), argues that insufficient dialogue and consultation contribute to inefficiency in SWM.

This study also reveals that there is no drawn schedule as to when and where to pick waste hence contributing to the uncollected waste. It means collecting waste from a particular place seemed a probability, since it was the Public Health Officer who decided

where and when to direct the waste team to go hence pockets of self-interest in the management of solid waste. That is if fuel and the waste Trucks are functional. In addition, MMC management seemed not to have fully communicated to the community on how, where and when trucks would be available to enable the community carry out self-loading.

This study also reveals that there is no recording of performance. Neither is there regular reporting by waste operators, users, management needs to develop mechanisms of reporting on a routine basis. MMC needs to appoint Local monitoring assistants, and also establish management committees that should have statutory meetings, ensure regular election of members of the management committees. Avenues of receiving complaints from the community should also be established for example putting complaint boxes or cards in convenient places.

This task requires the assigned team to carry out situational analysis with the help of village committees on SWM or environmental committees for purposes of forming a Waste Information System (WIS). This data should spell out the type of waste collected in terms of composition, amount of tones disposed of, the recyclables and the decomposing.

However the capacity of MMC is also questionable because there is no data or WIS to enable it take appropriate actions. The required number and qualified staff in the waste management department is also a problem other than the health inspectors the waste department in most cases is filled with people who have dropped out of school at an early stage thus resulting in poor payment because they have no qualifications. This waste handling is usually a preserve of the unemployed youth.

In relation to the Institutional Theory, waste scattered in people's premises and towns can be perceived as being part of peoples way of living. For example none of the 122 urban councils achieved 100%. In a recent study of "Make Uganda Clean" (The New

Vision 30, Nov 2013) the cleanest town Entebbe municipality scored 68.7% while Masaka municipality scored 45,6%. This means that municipalities in Uganda have a problem of handling waste. Thus with the present achievement and self-ranking of 60% waste collection it can be generalized as endurable unlike in developed countries with the researchers' experience in Sweden for example where scattering and littering of waste is a taboo to live with. Generally we have a culture of living with waste next to our premises. Therefore the assumption that the Waste Management Theory articulates, fails to hold water because it assumes that people always participate in removing waste from their premises which are not the case in developing countries because at times you have to force them to participate.

5.3 Conclusions

5.3.1 Community participation in Planning and Waste Solid Management

A few locals were given chance to present their opinions during planning meetings, leaders were rare at the grassroots/community though some were politically driven to attend meetings and in the meeting various issues were discussed but not in particular on SWM. There was low participation in as far as SWM is concerned. Surveys were irregular due to financial support and lack of commitment and political will. There is no evidence that potential partners and stakeholders are consulted, and goals and objectives were drawn in unrealistic manner that made it complex to meet the target because beneficiaries are not involved in the design and planning process other than involving councilors, there was inadequate communication channels to disseminate key information about solid waste. The community mind about their domestic environments and health rather than the areas the municipality oversees (dumping/ collection sites) and plans were drawn but not all areas are covered due to low community participation and inadequate funding in terms of tools like skips, spades man power and waste trucks. .

5.3.2 Community participation in Implementation and Solid Waste Management

From the study it can be concluded that local leaders engage in meetings without mobilizing the concerned local community and this leads to lack of active community participation in the implementation of waste management programs. There was delayed collection of solid wastes from the collection centers. The municipality has not explored the inclusion of youth, widows and women and other members of the society. A few stakeholders engage in waste management when trainings are available, very few individuals are interested because they are not well mobilized and, local leaders rarely mobilize the community in regard to keeping the environment clean campaigns hence registering low response.

5.3.3 Community participation in M&E and Solid Waste Management

From the study findings obtained, it can be concluded that Masaka Municipal council invites a few stakeholders (councilors) hence an imbalance in views collected. It is the department of Public Health that draws schedules of waste collection however; waste is not collected on a daily basis apart from sweeping and removing waste in the CBD. It was also found out that recording performance and tracking of garbage levels were inadequate as a few staff were engaged in this exercise. The community and management of MMC are thin on ground other than a few councilors who try their best to get involved. Further, the council rarely discusses key findings and evaluates results because facts representing what is on ground were not in place. No rules, regulations and sanctions were in place to guide the community on how to behave and conduct themselves in relation to waste, environment and health matters. Very few community members, participated in the implementation and monitoring of solid waste plans. Basically the public health staff, municipal council officials executed their assigned roles and responsibilities though their targets were not fully met. While a few facts were gathered because the methods of getting information from the community are not well streamlined.

5.4 Recommendations

5.4.1 Community participation in Planning and Solid Waste Management

It is the responsibility of the Municipality to ensure the community participates. In order to have the community participate, MMC needs to develop a solid waste information system or develop guidelines on how to make their products useful like the recyclables on how to sort and segregate waste from the toxics for all stakeholders. Where there is no appropriate guidelines for community participation in decision making you expect confusion and lack of direction, rendering it impossible to deliver in waste minimization , reduction of waste hence inefficiency prevails.

The Municipality management should support and encourage the involvement of women, youth, municipal workers, elected leaders, CBOs and religious bodies in the design, planning and implementation of waste handling. The community can be engaged in the identification of collection points, dumping sites and the time of disposal. In so doing it will help in eradicating illegal dumping sites hence help management to supply or increase on the number of collection bins / skips in identified places.

The researcher further recommends that MMC should ensure Community Environment Committees are formed and facilitated such that they can convene and discuss their interests, problems and challenges on SWM. The reason for this is that the local committees suggest waste solutions and identify more problems with the help of the technical staff and councilors.

Lastly, MMC through its Administrative department should ensure that deliberations are well documented for future consideration by the technical staff in the Municipal council secessions. In addition, community feedback should be done on what, when, whom, why

and how questions on waste handling. This is intended to improve Solid Waste Management.

5.4.2 Community participation in Implementation and Solid Waste Management

First, the researcher recommends that MMC Management considers the introduction of more awareness campaigns to entice the community to contribute in the development of an ESWM system since they will be familiar with both challenges facing their environment and benefits that arise out of the planned activities/ Action Plans.

Secondly, the Masaka Municipality Management through its Health department should hatch strategies of ensuring the community is committed to preventing and minimizing waste generation as well as its sorting at the household level. This is intended to ensure proper Solid Waste Management.

The researcher recommends that, MMC Management in line with the Women and Youth offices within the Council consider engaging this category fully in the Management of Waste. This is intended for their inclusiveness in the planning and implementation of SWM programs. This is likely to close a number of gaps which might exist in the implementation phase hence reducing on the Solid Waste Management ineffectiveness.

The Masaka Municipality in partnership with the Local Community should establish and develop composting initiatives, collection centers for recyclable waste, collection segregated waste. This is intended to ensure that they are piled together and identify Market for their sale hence effectively managing waste

Masaka Municipal Council together with its Legal department should ensure that bye-laws compelling the community to participate in environmentally related issues and penalties to

offenders are well outlined and enforced appropriately with the consultation with the community. This is intended to ensure that waste is properly managed.

Additionally, the researcher recommends that MMC Management together with its financial department should consider the introduction of User fees. This is intended to ensure a cut down on Vehicle maintenance and other SWM expenses as they seem to originate from waste mismanagement. This is intended to better good management of waste by the locals.

Lastly, the researcher recommends that for the impassable routes and areas, the private sector can be incorporated into the SWM system. Such that the technology suiting the areas can be involved like using the tricycles, wheel barrows to pick waste in inaccessible areas.

5.4.3 Community participation in Monitoring & Evaluation and Solid Waste Management.

First, the cultural cognitive pillar from Scott puts emphasis on the creation of shared knowledge and belief system rather than rules and norms as the basic guidelines for human action. Therefore, waste management is a shared responsibility and accordingly it requires concerted efforts of all stakeholders at all stages in the execution of any SW program.

Secondly, for purposes of enabling the community to contribute towards the efficiency in solid waste collection schedules should be planned in a decentralized way (zoning). MMC in line with the local community and solid waste staff should draw work plans to indicate when the waste trucks will be collecting the waste for example if its twice a week the time should also be decided and communicated such that those who have waste at their premises can utilize the program of self-loading thus reducing the amount of waste

at the collection sites. Masaka Council in line with its personnel department should ensure that it has enough staff to carry out efficient and effective work.

The researcher recommends that MMC in line with its Administrative department should ensure that more capacity building programs are put in place to enable the staff deliver to the community's expectation such that they get to know how much is collected in terms of tons for the recyclables and degradable. A waste information system should be developed in this way all the waste will be turned into a resource / income generating resource.

Another recommendation is for the MMC through the Health department should ensure that Reports (Monthly, Quarterly, mid-Term and Annual) detailing what progress of Community waste Management should be produced. This is intended for the discussion by the council at every month and remedy identification in terms of feedback, all intended to better Solid Waste Management.

Monitoring is a complex activity that needs to be simplified to all stakeholders to understand. A manifest / checklist should be provided to enable the community evaluate themselves better for purposes of improving the environment in their neighborhoods.

MMC in line with the Administration and Health department needs to have strong commitment and political will to ensure the town is free of waste. This can be done by looking at solid waste management as a priority which priority should be given reasonable allocation in the annual budgets and the percentages should at least go upwards year after year.

Lastly, for purposes of catering for awareness campaigns and sensitization, the researcher recommends that MMC liaises with its planning unit and financial department to ensure that

out of the total budget for waste management, a percentage of 5% be allocated for this purpose. Many studies in the water sector have recommended this percentage and they have been successful in encouraging the community to participate.

5.5 Limitations of the Study

During the course of the study, the researcher encountered some limitations which could have affected the generalization of the findings. These included:

- 1) The geographical study area could have hindered results to be generalized, the reason for this is that, I choose Katwe-Butego division in Masaka Municipality and in Masaka District. First and foremost, I am a former employee of Masaka District, I was familiar to most of my respondents. This could have biased my respondents to react in unexpected way compared to if someone else had approached them. The responses could have been biased because they thought I almost knew everything that was happening in the area given that I was even a town clerk from a neighbouring district. Secondly I stay in Masaka Municipal council this could also have biased my interpretation of the results and thinking because practically I was observing and following what was going on in the Municipality. The solution to this problem was to be ethical and objective to the study.
- 2) The study area was also a limitation to my findings, because Katwe - Butego is a small area that could be having unique situations that cannot be generalized to all urban Centers. The eating habits, economic, social and cultural settings of the people is quite different compared to other urban centers, you might find that the technology used, budget allocations, governance and the landscape contributes or influences the efficiency of the organization thus making my results to have taken a given direction. It should be noted that not all good practices and methods when replicated yield the same results.

5.6 Areas for further Studies

- This study did not give the amount of waste that is recyclable and the amount that reaches the land fill. Since recycling can be a source of income there is need to know how much is collected to qualify it as a resource thus this area needs further investigation.
- The information gathered in this study indicates that no municipality collects 100% waste, most municipalities collect 60 % and below. So one wonders where the uncollected waste goes? Or is it the one we find scattered on streets? So this area needs to be studied further.
- This research did not consider the influence of politics and governance over solid waste management, so this area also needs further investigation.

REFERENCES

- Achankeng, E. (2003). *Globalization, Urbanization and Municipal Solid Waste Management in Africa*, University of Adelaide, Nigeria
- Adebuason, R. (2008). Sustainable Private Sector Participation in Municipal Solid Waste Collection Services: *The Case of Arua Municipal Council in Uganda*. *International Journal of Applied Science and Engineering Research*, Vol., 2 Issue 3, 2013 June pp 307 – 321
- Ahmed, K., Mufeed, S., Vaishy, R .C., & Gupta, (2004). *Municipal Solid Waste characteristics and Management in Allahabad, India*
- Amin. E. M. (2005). *Social Science Research, Conception, Methodology and Analysis*.
- Anjum, M. (1999). *What Waste Solid Management in Asia?*
- Anomanyo, D. E. (2004), *Integration of Municipal Solid Waste Management in Accra (Ghana): Bioreactor Treatment Technology as an Integral Part of the Management Process*, MSc. thesis. Lund University, Sweden
- Antwi, E. (2008). *Seeing the House from the Environment: Environmental Concerns of Informal/ Slum Settlement in Accra Ghana*. A Masters of Environmental Management Science Thesis
- Amal, C. (2010). *Stake holder's Participation and Garbage Management in Municipalities of Uganda: A case study of Lira Municipality* Masters of Management Studies Dissertation, Uganda Management Institute.
- Amin, E. M. (2005). *Social Science Research, Conception, Methodology and Analysis*. Makerere University: Kampala.
- Atienza, V. (2007). *Review of the Waste Management System in the Philippines: Initiative to Promote Waste Segregation and Recycling through Good Governance*

Babbie, E. R. (2001). *The Practice of Social Research*

Bernstein, J. (2004). *Toolkit for Social Assessment and Public Participation in Municipal Solid Waste Management*. Urban Environment Thematic Group, The World Bank, Washington, D.C.

Blottnitz, H, V & Kasozi, A. (2010). *Solid Waste Management in Nairobi: A situation Analysis, Technical Document accompanying the integrated Solid Waste Management Plan*

Cilinskis, E. & Zaloksnis, J. (1996). *Solid Waste Management in the City of Riga, Latvia: Objectives and Strategy*. *Ambio*. 25: 103 - 107.

Danbuzu, S. A. L. (2011): *Composition and Spatial Distribution of Solid Waste Collection Point in Urban Katsina, Northern Nigeria*. An M.sc Land Resource (Development). Research proposal submitted to the Department of Geography. B. U. K

Gombya . S. W. & Mukunya F (2004) *Solid Waste Management in Kawempe Division Issues, Challenges and Emerging Options*: [http://www.Nuru, or.ug](http://www.Nuru.or.ug) (2007 August 17)

Hammer G (2003). *Solid waste treatment and disposal: Effect on Public Health and Environmental Safety*. *Biotechnol. Adv.* 22:71-79

Handbook of Higher Local Governments (2003).

Hasnat, A., & Maqsood, S. (2012). "Public-Private Partnership and Decentralized Composting Approach in Dhaka, Bangladesh." Waste Concern presentation at IPLA Global Forum 2012 on Empowering Municipalities in Building Zero Waste Society—A Vision for the Post-Rio-20 Sustainable Urban Development. Seoul, Republic of Korea, September 5-6, 2012

Isingoma, R (2009), *Tax Revenue Utilization and its effects on Solid Waste Management. A Case study of Hoima Town Council*: Uganda management Institute Unpublished.

Kampala City Council Report (2004)

Kativa, D. (2002). Bindura Waste Management Project, Participatory Urban Planning and Management: A civil Society Initiative, Case of the Bindura Environment Action Network (BEAN) and the Bindura Women Recycling Project. Environment Africa foundation

Kiiza, C. J. (2009). The Challenges of Solid Waste Management: A Case study of Kawempe and Rubaga Division Kampala district, Uganda.

Krejce, R.V., & Morgan, D.W. (1970). Determining sample size for research activities: *Educational and Psychological Measurement*, 30, pp.607-610., State: Publisher.

Masaka Municipal Annual Report (2009).

Masaka Municipal Council Records (2011).

McDougall, F., White, P., Franke, M., & Hindle, P., (2001). Integrated Solid Waste Management: *A Life Cycle Inventory*, second ed. Blackwell Science Ltd

Medina, M. (2002). Globalization, Development, and Municipal Solid Waste Management in Third World Cities

MoLG (2006). District and urban Councils Development Planning Guidelines. (July 2006).

MoLG (2010). National Urban Policy Development Support, Urban situation analysis in Uganda Report.

Moningka, L. (2000). Community Participation in Solid Waste Management Factors Favouring the Sustainability of Community Participation: *A Literature Review*. UWEP Occasional Paper.

Mugenda, O. M & Mugenda, A. (2003). Research methods: *Quantitative and Qualitative Approaches*

- Mugenda, O. M. & Mugenda, A. G. (1999). Research Methods: *Quantitative and Qualitative approaches*
- Mungure, M. J. (2008). Governance and Community Participation in Municipal Solid Waste Management, Case of Arusha and Dar es Salaam Tanzania, Masters of Science Thesis in Environment Management thesis Aalborg University.
- Mushabe, S (2002) Challenges of Solid Waste in Mbarara Municipality, Masters of Management Studies Dissertation, Uganda Management Institute
- Nare, L., Odiyo, J. O., Ravululu & Potgieter, R. (2006). Evaluation of Community Knowledge, Attitudes, Practices and Perceptions relating to Water quality and Safety in Luvuvhu catchment of South Africa
- NEMA (2002) *The State of Environment Report for Uganda.*
- NEMA (2005) *The State of Environment Report for Uganda.*
- Petts, J. (2000). Municipal Waste Management: *Inequities and the Role Deliberate, Risk Analyses*, 20 (6), 821-832.
- PRIA (2008). Participatory Planning of Solid Waste Management in selected Small and Medium Towns. <http://www.pia.org/doc/resources-pdfpaper-5pdf>.
- PRIA (2008). Urban Governance, participatory Planning in Solid Waste Management. In Selected Small, Medium Towns of India.
- Prongracz, E., Paul, S. P., & Keiski, R. L (2004). Evolving the Theory of Waste Management: *Implications to Waste Minimization*
- Read A D (1999). "Making waste work: *Making UK national Solid Waste Strategy work at the Local scale.*" Resources, Conservation and Recycling 26(3-4):pp. 259-285.

- Sakai, S. (1996). "World Trends in Municipal Solid Waste Management." *Waste Management* Vol. 16(5/6):pp. 341-350.
- Sarantakos, S. (1998). *Social Research*, Charles Stuart University, Australia, 2nd edition.
- Schubeler, P. (1996). *Conceptual Framework for Municipal Solid Waste Management In Low Income Countries Urban Management and Infrastructure/WorldBank/SDC Collaborative Program on Municipal Solid Waste management in Low-Income Countries.*
- Sekaran, U. (2003). *Research Methods for Business. A Skill Building Approach.* John Wiley and sons Inc. New York.
- Snigda, C., Amita, M., & Subhendu, D. (2009). An Exploratory Analysis of Women's Empowerment in India: *A Structural Equation Modelling Approach; Journal of Development Studies, Vol. 48, No. 1, 164–180, January 2012 (jointly with Chaiti Sharma Biswas)*
- Squires, C. O. (2006). *Public Participation in Solid Waste Management in Small Island Developing States*
- Subash, A (n.d). *Community Participation in Solid Waste Management.*
- UN Habitant (2008)
- UN-Habitat (2010). *Solid Waste Management in the World's Cities: Water and Sanitation in the World's Cities.* Earth-scan Washington DC
- UNCHS (2001). *Tools to Support Participatory Urban, Decision Making: Urban Governance Toolkit Series, Nairobi-Kenya.*
- Uganda Bureau of Statistics (UBOS) (2005)
- United Nations Centre for Human Settlement (2001)

Zagozewski, R., Judd - Henry, I., Nilson, S., & Bharadw-aj, L. (2011). Perspectives of past and present waste Disposal Practices: *A Community Based Participatory research project in three Saskatchewan First Nations communities. Journal of Environmental Health Insights, 5, pp. 9-20*

APPENDICES

Appendix I: Questionnaires for Households, Business Owners and Opinion Leaders

Dear Respondent,

This questionnaire is intended to facilitate a study on *community participation and effective Solid Waste Management in urban Authorities in Uganda with special reference to Masaka Municipal council*. The information given will be used purely for academic purposes and will be confidentially kept. All answers provided will be treated with utmost confidentiality and used only for the purpose of this study.

Thank you in advance

LUYIMBAZI JAMES

Student

Uganda Management Institute

Section A: Demographic Information

Please tick (✓) or fill in the space provided or tick in the box on the appropriate alternative answers provided.

1. Street/Cell Name.....

2. Age

18- 28 29- 39 40-50 years 51- 61 years Over 61years

3. Gender:

Male Female

4. Marital status:

Married Single Widowed Divorced/separated Others

5. Highest Qualification of Education Attained:

Primary O'Level A' Level Diploma Bachelors
Masters Others specify.....

6. Occupation:

Civil Servants Community leader Business persons Others

SECTION B: COMMUNITY PARTICIPATION AND SOLID WASTE MANAGEMENT

In each of the sections B,C,D,E,F please tick (✓) or circle (o) that best indicates your opinion on the questions by using the following scale the numbers represent.

Strongly Agree Agree Neutral Disagree Strongly Disagree
 5 4 3 2 1

	COMMUNITY PARTICIPATION	SA (5)	A (4)	N (3)	D (2)	SD (1)
	SECTION B: PLANNING	5	4	3	2	1
1.	I am given chance to give my opinion on Solid Waste Management.	5	4	3	2	1
2.	Leaders participate in the planning of solid waste management.	5	4	3	2	1
3.	Councilors discuss Solid Waste Management plans with their constituents.	5	4	3	2	1
4.	Council carries out regular surveys on the needs of its constituents.	5	4	3	2	1
5.	There is consultation with potential partners and stakeholders on issues pertaining to solid waste programs	5	4	3	2	1
6.	Goals and Objectives are well set.	5	4	3	2	1
7.	Developing strategy for message transmission on solid waste is done in accordance to the community.	5	4	3	2	1
8.	Solid Waste Management is a top most priority while planning in Masaka municipality	5	4	3	2	1
9.	Solid Waste Management plans/ programs are discussed in all wards/parishes.	5	4	3	2	1
10.	The public views in Solid Waste Management are considered while planning.	5	4	3	2	1
11	The community is aware that poor handling of Solid Waste affects their health directly					

12.	Solid Waste Management plans once approved are adhered to and enforced.	5	4	3	2	1
	SECTION C: IMPLEMENTATION	SA (5)	A (4)	N (3)	D (2)	SD (1)
13	Local leaders mobilize the community to participate in Solid Waste Management					
14	There are watchdogs to see how waste is disposed off					
15	There is a specific day set for cleaning up					
16	Local leaders encourage the community to subscribe to waste collections					
17	Youth, widows, women and disabled are involved in Solid Waste Management programs					
18.	My Community disposes of solid waste in a good manner	5	4	3	2	1
19.	The Community is aware that Solid Waste affects, their health directly	5	4	3	2	1
20	Stakeholders are involved in Solid Waste collection management	5	4	3	2	1
21	Formal and Informal training are provided to the communities in Masaka Municipal Council	5	4	3	2	1
22	Solid Waste Management views are discussed in the Communities in Masaka Municipal Council	5	4	3	2	1
23	Local leaders organize individuals and groups to collect garbage from their premises	5	4	3	2	1
24	Communities in Masaka Municipality participate actively in Solid Waste Management.	5	4	3	2	1
25	Masaka Municipal Council often participates keeping public areas around the neighborhood clean;	5	4	3	2	1
26	The Community is aware of sponsored special campaigns, competitions to raise the profile of Solid	5	4	3	2	1

	Waste Management					
27	Local Authorities in Masaka Municipality always mobilize their residents on Solid Waste Management issues.	5	4	3	2	1
28	Lack of community participation affects Solid Waste Management in Masaka Municipality.	5	4	3	2	1
29	I am satisfied by the level of community participation in Solid Waste Management in Masaka Municipality.	5	4	3	2	1
	SECTION D: MONITORING AND EVALUATION	SA (5)	A (4)	N (3)	D (2)	SD (1)
30	Masaka Municipal Council invites parts to discuss Solid Waste Management issues	5	4	3	2	1
31	Masaka Municipal Council has a timetable for collection of Solid Waste Management	5	4	3	2	1
32	Recording performance of Solid Waste Management is done regularly	5	4	3	2	1
33	Tracking the level of Garbage collection is done on a daily basis in Masaka Municipal Council	5	4	3	2	1
34	Masaka Municipal Council discusses the findings and evaluates results on Solid Waste Management	5	4	3	2	1
35	Community participation in the implementation of Solid Waste Management projects is promising	5	4	3	2	1
36	The community of Masaka Municipal Council perform their role to have solid waste free town council	5	4	3	2	1
37	Constant assessments and corrective actions are made through the community	5	4	3	2	1
38	Information about Solid waste is gathered using qualitative techniques like Focus Group Discussions	5	4	3	2	1
	SECTION F: EFFECTIVE SOLID WASTE MANAGEMENT	SA (5)	A (4)	N (3)	D (2)	SD (1)
39	Do you sort your waste at the time of collection	5	4	3	2	1

40	Do you have different bins /containers for organic and non organic waste	5	4	3	2	1
41	Do you benefit from the waste you dispose off	5	4	3	2	1
42	Most of my organic waste is composited	5	4	3	2	1
	Solid Waste Collection and Storage					
43	Solid Waste in Masaka Municipality is adequately managed.	5	4	3	2	1
44	Solid Waste in Masaka Municipal Council is collected to gazetted collection centers	5	4	3	2	1
45	There are increased dump sites in Masaka Municipal Council	5	4	3	2	1
46	Masaka Municipal Council collects garbage daily	5	4	3	2	1
47	There are enough Tracks and Metallic bins that are used in the collection of waste.	5		3	2	1
48	The refuse generated by all households/business premises is collected.	5	4	3	2	1
49	Masaka Municipal Council has enough refuse collection trucks.	5	4	3	2	1
50	The available refuse trucks are in good operational state.	5	4	3	2	1
	Solid Waste and Transportation					
51	Masaka Municipality uses sound reliable trucks and hand driven carts to collect Garbage all over the town.	5	4	3	2	1
52	Roads in Masaka Municipality are accessible to facilitate garbage collection by trucks.	5	4	3	2	1
53	There are vehicle pass ways to access households/business premises during waste collection.	5	4	3	2	1
54	Garbage collection is done in the slums of Masaka Town where roads are not accessible.	5	4	3	2	1
55	Masaka Municipality has a transportation plan for	5	4	3	2	1

	removal of garbage.					
56	Garbage transportation covers all parts of the municipality.	5	4	3	2	1
	Solid Waste Disposal					
57	The community practices Garbage Reduction	5	4	3	2	1
58	Masaka Municipality residents practice less waste	5	4	3	2	1
59	Masaka Municipality residents practice material recovery.	5	4	3	2	1
	Solid Waste Reduction	5	4	3	2	1
60	My Community practices Solid waste reduction	5	4	3	2	1
61	I receive incentives when I participate in reduction of solid waste management	5	4	3	2	1
62	I separate by sorting my waste before storage	5	4	3	2	
63	I mix all the waste in one bin / container without sorting	5	4	3	2	1
64	I use different containers for bio-degradable non and bio-degradable waste	5	4	3	2	1
65	I recover most of reusable materials	5	4	3	2	1
66	Do you sale the reusable waste	5	4	3	2	1
67	I benefit from the waste that is collected especially the degradables	5	4	3	2	1
68	Composite is used largely by farmers in Masaka Municipality	5	4	3	2	1
69	Do scavengers pay you any fee for taking your waste	5	4	3		1
70	I benefits from all the waste that I collect	5		3	2	1
	Solid Waste Recycling	5	4	3	2	1
71	Masaka Municipality supports/promotes recycling of waste.	5		3	2	1
72	Communities are involved in the design and implementation of recycling programs	5	4	3	2	1
73	Community is aware of need to reduce waste	5	4	3	2	1

	production and facilitating recovery for the purpose of recycling;					
74	Waste recycling is practiced by the community of Masaka Municipality	5	4	3	2	1
75	Recycling is practiced by community / residents.	5	4	3	2	1
76	Recycling is a source of revenue in Masaka Municipal Council	5	4	3	2	1
77	Garbage in Masaka Municipality is sorted and segregated.	5	4	3	2	1
78	Masaka Municipality has high potential for recycling waste.	5	4	3	2	1
79	Masaka Municipality has waste recycling facilities which are functional (in use)	5	4	3	2	1
80	There are groups of people formed for recycling garbage in Masaka Municipality.	5	4	3	2	1
	Resource Recovery	5	4	3	2	1
81	Masaka residents practice resource recovery	5	4	3	2	1
82	Recovering of resources from waste is a profitable business.	5	4	3	2	1
83	Recovery of resources from waste is profitable in Masaka Municipal Council	5	4	3	2	1
84	Over 60% materials are recovered from waste by the residents of Masaka.	5	4	3	2	1
85	Scavengers pay a token fee for materials from waste recovery.	5	4	3	2	1

Do you have any suggestion how solid waste management can be improved in reference to community participation?

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....

Thank you for your co-operation and responses.

Appendix II: Interview Guide for Local Government Elected and Appointed Officials

This interview guide is intended to facilitate a study on *community participation* and *effective Solid Waste Management in urban Authorities in Uganda with special reference to Masaka Municipal council*. The information given will be used purely for academic purposes and will be confidentially kept. All answers provided will be treated with utmost confidentiality and used only for the purpose of this study.

Introduction, your profession and what you do?

Can you say a little about your municipality and the procedures you do in reference to waste management and sanitation?

What has been the problem with municipal solid waste management?

What do you think are the causes of these problems? And in your opinion what should be done?

Do you face the same problems of waste management and operation if you compare to other neighboring municipalities? If yes, how? If no, are you satisfied with the service you provide?

Do you think the culture of the people has an impact on their attitude towards waste management and sanitation in general? If yes, how?

What would you say about public awareness on the issue of waste management do you think there is enough general knowledge about waste handling or even the need to pay for solid waste services for example? Do they get this knowledge on regular basis?

What can you say about the issue of low enforcement and environmental policies and regulation? Do you think they have any effect on people's attitude and behavior on waste?

Is there any type of cooperation that enables for example waste collectors suggest new measures to municipal waste management? If yes, how? If no, why?

I read that one of the problems in management has been inter institutional cooperation and collaboration. How is the communication strength between you and the various bodies (stakeholders) involved in solid waste management?

In case the privatize waste collection in Masaka Municipality, what role will the Masaka Municipal council play in waste management?

What would you say is the state of waste management in Masaka Municipality today? What percentage of the waste generated is collected and disposed?

How are the activities of waste collection financed? Is it enough? If not how do you manage?

I understand there are always problems in acquiring land for public waste disposal, how do you handle this problem? What factors influence or determine its location?

What do you think should be the way forward? If you have the chance what would you say the management and the community should do that will bring better waste management services in the municipalities?

What types of food stuffs are consumed in Masaka Municipality? How do these food stuffs affect solid waste management in Masaka municipality?

Does Masaka Municipal Council undertake any education or sensitization of masses on waste management? How effective is it?

How effective is waste collection, transportation and disposal by Masaka Municipality?

Do the communities of Masaka Municipality participate in solid waste management? How effective is it?

Does Masaka Municipal Council have any bye-laws on waste management? How effective are these bye-laws in addressing solid waste problem in the municipality?

What solutions do you suggest to address the problems of solid waste in Masaka Municipality?

Appendix III: Interview Questions with Other Organisations

This interview guide is intended to facilitate a study on *community participation* and *effective Solid Waste Management in urban Authorities in Uganda with special reference to Masaka Municipal council*. The information given will be used purely for academic purposes and will be confidentially kept. All answers provided will be treated with utmost confidentiality and used only for the purpose of this study.

Introduction and what your Organization does.

Name of Village.....

How do you dispose of waste from your institute?

Burn it, b). Send it to community collection / transfer point, c) make composite,

d) Collected by waste contractors, e) Others please specify.....

How do waste management activities affect your working environment/condition?

What do think about how the municipality manages waste in your area; do you think they do enough to keep you aware and motivated in keeping your environment clean? How?

Are you satisfied with the service the municipality is providing? What is your opinion about waste management and how should it be improved to meet your experiences?

Do you think there is enough knowledge provided by the municipality on waste management issues to the community in general?

Dou you think the government is doing enough to solve the waste problem? If yes what? If no, what is it not doing?

What can you do as an organization in helping to solve the problem?

Appendix IV: Observation Checklist

1. Garbage collection sites
2. Nature of roads
3. Refuse collection equipment
 - i) Refuse trucks
 - ii) Skips/bins

Appendix V: Krejcie & Morgan Population Table (1970)

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384