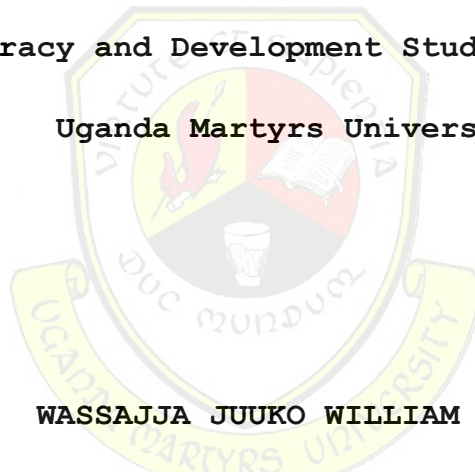


**THE ASSESSMENT OF SOLID WASTE MANAGEMENT POLICY IMPLEMENTATION
IN UGANDA**

Case Study: Nyendo-Senyange Division

**A Dissertation Submitted to the Institute of Ethics and
Development Studies in Partial Fulfillment of the Requirement
for Award of Bachelors Degree in**

**(Democracy and Development Studies) of
Uganda Martyrs University**



WASSAJJA JUUKO WILLIAM

2012-B103-10080

FEBRUARY, 2017

DEDICATIONS

This dissertation is dedicated to the Family of late Sulemani Wassajja, brothers, sisters and friends for the underlying support offered to me throughout the course of the study. May the Almighty Lord bless them and always continue guide in life.

ACKNOWLEDGEMENT

Am expressing sincere gratitude to all those who contributed to the completion of this research report. Endless of thanks goes to my sincere supervisor Sr. Namutebi Estellina for not only supervising but also providing directions and guidance during the production of this report. Am pleased with assistance, may God bless her. I'm also grateful to Nyendo-Senyange division's Administrative staff including; Chairperson LC111, Town Clerk, Public Health Officer, Community Development Officer (CDO) for the support they rendered during my research. Special thanks goes to my colleagues including; Sam Bazeketta and Sarah Mukasa who really facilitated me with fuel and airtime during data collection period and also the success of this study. May the Almighty Lord reward. I thank the almighty lord who has enabled me to complete this research and my studies.

TABLE OF CONTENTS

| | |
|---|-------------|
| DECLARATION | i |
| DEDICATIONS | ii |
| LIST OF FIGURES | vi |
| A LIST OF ACRONYMS | vii |
| ACKNOWLEDGEMENT | iii |
| ABSTRACT | viii |
| CHAPTER ONE | 1 |
| INTRODUCTION | 1 |
| 1.1 General Introduction..... | 1 |
| 1.2 Background to the Study..... | 2 |
| 1.3 Statement of the Problem..... | 5 |
| 1.4 Objectives of the Study..... | 6 |
| 1.4.1 General Objective..... | 6 |
| 1.4.2 Specific Objectives..... | 6 |
| 1.5 Research Questions..... | 7 |
| 1.6 Scope of Study..... | 7 |
| 1.6.1 Content Scope..... | 7 |
| 1.6.2 Geographical Scope..... | 7 |
| 1.6.3 Time Scope..... | 8 |
| 1.7 Significance of the Study..... | 8 |
| 1.8 Justification of the Study..... | 9 |
| 1.9 Conceptual Framework | 10 |
| 1.11 Definition of key terms..... | 12 |
| CHAPTER TWO | 13 |
| LITERATURE REVIEW | 13 |
| 2.0 Introduction..... | 13 |
| 2.1.0 Solid Waste Management policy implementation measures. 13 | |
| 2.1.1 Existence of laws and acts parliament..... | 13 |
| 2.1.2 Solid Waste Management planning, collection, disposal. 15 | |
| 2.1.3 Community awareness about Solid Waste..... | 16 |
| 2.1.4 Management of uncollected wastes by the community..... | 17 |

| | |
|---|-----------|
| 2.2.0 Challenges that have been encountered on Solid Waste Management policy implementation..... | 18 |
| 2.2.1 Institutional challenges and limited financing..... | 18 |
| 2.2.2 Limited capacity of the councils in lower local governments to handle Solid Waste..... | 19 |
| 2.2.3 Infrastructural challenges..... | 20 |
| 2.2.4 Social economic challenges..... | 21 |
| 2.3.0 Appropriate strategies to address the challenges encountered in Solid Waste Management policy implementation. | 22 |
| 2.3.1 Integrate solid waste management policies..... | 22 |
| 2.3.2 Establishment of community solid waste recycling center | 22 |
| 2.3.3 Encourage green productivity for solid waste management | 23 |
| 2.3.4 Management of uncollected wastes by the community..... | 24 |
| 2.3.5 Translate the proposed waste management strategy into action..... | 25 |
| 2.3.6 Define Clear Roles of Relevant Agencies in a Country.. | 25 |
| 2.3.7 Develop Human Resources in community based organizations | 26 |
| 2.3.8 Raise Awareness of the Public and Decision Makers..... | 27 |
| CHAPTER THREE..... | 29 |
| RESEARCH METHODOLOGY..... | 29 |
| 3.1 Introduction..... | 29 |
| 3.2 Research Design..... | 29 |
| 3.3 Area of Study..... | 30 |
| 3.4 Study Population..... | 30 |
| 3.5 Sample Size..... | 31 |
| 3.6 Sampling Techniques..... | 31 |
| 3.6.1 Purposive sampling..... | 31 |
| 3.7 Data Collection Methods and Instruments..... | 32 |
| 3.8 Validity and reliability..... | 33 |
| 3.9 Data Analysis..... | 33 |
| 3.10 Ethical Considerations..... | 34 |
| 3.11 Limitations of study..... | 34 |

| | |
|---|-----------|
| CHAPTER FOUR..... | 35 |
| DATA PRESENTATION AND DISCUSSION..... | 35 |
| 4.0 Introduction..... | 35 |
| CHAPTER FIVE..... | 47 |
| SUMMARY, CONCLUSION AND RECOMMENDATIONS..... | 47 |
| 5.0 Introduction..... | 47 |
| 5.1 Summary of Findings..... | 47 |
| 5.2 Conclusion..... | 49 |
| 5.3 Recommendations..... | 49 |
| References..... | 51 |
| APPENDIX 1 QUESTIONNAIRE FOR THE KEY INFORMANTS..... | 53 |

LIST OF FIGURES

Figure 1 shows designation of respondents..... 35

Figure 2 Shows category of education level..... 36

Figure 3 Shows age range distribution for respondents..... 37

Figure 4 shows period of duration in service delivery..... 38

Figure 5 shows sex of respondents..... 39

Figure 6 Solid Waste Management policy implementation measures
..... 40

Figure 7 Challenges that have been encountered during Solid...41

Figure 8 Strategies to address challenges encountered during
Solid Waste Management policy implementation..... 44

A LIST OF ACRONYMS

| | |
|-------|--|
| SWM: | Solid Waste Management |
| ISWM: | Integrated sustainable waste management |
| NGO: | Non Government Organization |
| NEMA: | National Environment Management Authority |
| CSOs: | Civil Society Organizations |
| NEA: | National Environment Act |
| LGA: | Local Government Act |
| CDM: | Clean Development Mechanism |
| EMCA: | Environmental Management and Co-ordination Act |
| DEOs: | District Environment Officers |
| RCRA: | Resource Conservation and Recovery Act |

ABSTRACT

Uganda's central and local governments have made great efforts to improve SWM policy implementation. Regulations and policies have been issued, urban infrastructure improved, and commercialization and international cooperation have been encouraged to be part of the design. The responsibility of solid waste management (SWM) lies with local governments as specified in the Local Governments Act of 1997.

This research study was carried out to assess Solid Waste Management policy implementation in Nyendo-Senyange Division, one of the three divisions of Masaka Municipality. The research was aimed at achieving four objectives namely: To explore the nature of policy implementation on Solid Waste Management, examine the challenges encountered in Solid Waste Management policy implementation, find out appropriate strategies to address the challenges encountered in Solid Waste Management policy implementation in Nyendo-Senyange Division, Masaka Municipality, Masaka District.

This research looked at the methodology used to collecting data such as questionnaires, interviewing, documentation review and focus group discussion. It also looked at the area of study and its population, sample size, summary of the findings, recommendations of the study and conclusions. Research findings showed that almost all targeted groups knew several Solid Waste management practices but they weren't practicing them all because some were beyond their reach (practiced at division level). The division has done tremendous work in SWM but more efforts needed to be double to combat the problem of crude dumping. Management policy challenges could best be handled just if we brought community people, Civil Society and other duty bearers to be part of the policy design, implementation and evaluation. Appropriate technologies needed to be incorporated in the policy framework in order to promote green productivity for solid waste management

CHAPTER ONE

INTRODUCTION

1.1 General Introduction

In the 1950s and 1960s waste management was efficient because of the lower urban population and adequate resources. It was evident from some African authors like; Achankeng (2003) Cameroon, Adebilu and Okenkule (1989) Nigeria, Kaseva and Mbuligwe (2005) and Rotich et al. (2006) Kenya, those urban areas in Africa have been experiencing serious solid waste management failures. Urban councils (UCs) often failed to provide adequate waste management services due to factors such as lack of capacity to adequately adopt the technology-intensive methods from the developed world.

Uganda is one of the countries that are fighting hard to ensure that there is proper Solid Waste Management. this came into operation after realizing that the country did not have the capacity centrally to effectively deliver services to the different communities and the environment, adopted a decentralization policy in 1997 aiming at strengthening local governments were initiated in the 1980s and were consolidated by the 1995 constitution and further elaborated by the Local Government Act (LGA) of 1997. It has gone an extra mile to make appropriate policies to facilitate Solid Waste Management and their implementation. Nyendo-Senyange Division being a developing trading centre with an increasing population has faced a lot of challenges that are related to poor solid waste management. UN habitant report 2016. Waste is dumped anywhere and some in garbage collection centers although there are delays in collection due to inadequate staffing, funding and material resources. These delays subjected people's lives prone to diseases related to poor solid waste deposits for example Cholera and other related injuries from mechanical deposits.

My area of interest was to assess Solid Waste Management policy implementation in Nyendo-Senyange Division Masaka Municipality. This chapter described the background to the study on the assessment of the adoption of solid waste management measures in Nyendo-Senyange Division, Masaka municipality, Masaka District. It also presented; back ground of the problem, statement of the problem, overall objective and specific objectives, research questions, scope of the study, significance of the study justification of the study, conceptual framework and key terms definitions

1.2 Background to the Study

In 2000, world leaders at a UN convention adopted Millennium Development Goals (MDGs) to provide concrete, numerical benchmarks for tackling extreme poverty in many dimensions. One of the MDGs is to ensure environmental sustainability. To achieve this, governments in the world had to put in place different measures such as legislations and policies on proper waste management. No country has ever experienced as large or as fast an increase in solid waste quantities that China is now facing Delvoie (2005). Today Sub-Saharan Africa is in process of urban transition that will persist well into the 21st century. Between 2010 and 2035, the urban population is expected to more than double from approximately 298 million to 697 million. By mid-century, it is estimated that over 1 billion people will live in urban areas (UN Habitant 2014). This acted as an engine of economic growth and human development because as cities rapidly grow, so does the amount of waste that they generate. Inappropriate policies have contributed to the growth of life- and health-threatening slums, where urban waste management services are often woefully inadequate.

In Uganda, the responsibility of Solid Waste Management lies with Local Governments as specified in the Local Governments Act of 1997. However, the Local Governments Act of 1997 clearly mandates the Kampala City Council - KCC now KCCA the responsible for all the activities dealing with solid waste; from the point of production through collection to disposal. The law mandates local governments with the overall responsibility of environmental management. The other law that directly provides for the management of solid waste in Uganda is The National Environment Statute (NES) of 1995. It is this Statute that establishes the National Environment Management Authority (NEMA) as the overall body, charged with the management of environmental issues. In general, the Authority in consultation with Lead Agencies is empowered to issue guidelines and prescribe measures and standards for the management and conservation of natural resources and the environment. The Statute requires that the central government collaborates with the Local Governments in the management of local issues including among others, solid wastes.

NEMA report 2009/2010 noted that Solid Waste Management in Uganda was still a major problem and the growth in urban population means that pollution issues such as solid waste management among others will have to be addressed.

This information indicated that Solid Waste generation and the associated management was related to income levels and levels of industrialization.

The government of Uganda put in place measures or guidelines through the establishment of National Environmental management Authority (NEMA). The National Environment Act (NEA), Cap. 153, stipulates the mandate of NEMA as the principal agency in Uganda responsible for the management of the environment by coordinating, monitoring, supervising and regulating all

activities in the field of environment (NEMA Annual Performance Report July 2009 - June 2010). As part of measures to promote environment conservation, NEMA built vertical linkages with districts. The development of strong links between the resource users and the Authority is very crucial for effective implementation of the National Environment Action Plan. NEMA therefore, focused programs aimed at: building local government environmental planning capacity supported by an information and knowledge base, it has also enabled districts to sustainably manage the environment and natural resources within their jurisdiction.

In this respect, NEMA has been over the years assisting local government to develop their respective environmental action plans, policies and bye-laws, recruitment of district environment officers, project support, tooling/equipping, among others. NEMA has also been supporting Municipal/Town Councils in solid waste management through solid waste composting, and school, public and community education/awareness programs. Despite of all measures put in place by the Ugandan government to address solid waste management, many challenges still remain and some are emerging, thus calls for strict policy enforcement (State of Environment Report for Uganda 2007/2008).

Masaka District Local Government five year District Development Plan (2011/2012-2015/2016) provides a clear understanding of the causes of Environmental degradation in the district which include among others poor solid waste management especially non-biodegradable materials (plastic materials) but it ran short of identifying the causes of low adoption of environment and conservation measures. Based on this gap, the study is timely and likely to come in and assess

the adoption of solid waste management measures in the district with particular emphasis on Nyendo-Senyange Division which is one of the two (2) Divisions in the district where urban solid waste is mainly generated. Nyendo-Senyange Division had the biggest population as compared to other divisions, has not been left out of the challenges associated with Solid Waste Management. The division produced 24 tons of garbage weekly Nyendo-Senyange Division Council 2nd quarterly Report 2016. However out of the 24 tons of garbage produced weekly, the Division authority can collect only 15/16 tons a week, the remaining garbage approximately 07 tons decomposes becoming a health risk/threat to the surrounding communities. The situation has been aggravated by the limited available resources to manage garbage in the town council. For instance the municipality council has only one garbage collector lorry and 01 ferry tractor to collect all the garbage produced in the Division. The Division's ability to manage solid waste has been affected by poor waste management in Nyendo town which calls for strict enforcement of the policies on solid waste management. The gaps in solid waste management have led to continued poor solid waste management in the town council.

1.3 Statement of the Problem

Despite of existing avenues, legal and institutional frame works that are in place to enhance proper solid waste management, there is still improper solid waste management policy implementation in Uganda and Nyendo-Senyange division inclusive. Legal frame works like the constitution of the Republic of Uganda 1995 Article 245 (a) provides measures intended to protect and preserve the environment from abuse, pollution and degradation," The National Environment (Waste Management) Regulations, S.I. No 52/1999; The Local Government Act 1997, all have provisions of how all wastes shall be properly managed among other regulatory frame works. The lack

of appropriate and proper institutional arrangements, adopted technologies like modern trucks and the lack of adequate capacity by divisions to handle the solid waste generated have caused implications on people's livelihoods and environment posing great health risks for instance; solid waste at informal disposal sites produces toxic gases, bad odors and creates air pollution. This has led to increased incidences of diseases like cough, diarrhea, Fever, habitant sites for vectors among others, hence increasing public expenditure on treatment through drugs procurement and distributions and yet a properly managed waste is wealth (Zake et al 2008:6). This research informed duty bears (division authority) areas needing critical attention for better services and at finding out what is being done with Solid Waste Management Policy implementation in the division.

1.4 Objectives of the Study

1.4.1 General Objective

Assess Solid Waste Management Policy implementation in Uganda with specific reference in Nyendo-Senyange Division, Masaka Municipality, Masaka District.

1.4.2 Specific Objectives

1.4.2.1 Find out which Solid Waste Management policy implementation has in Nyendo-Senyange Division, Masaka Municipality, Masaka District.

1.4.2.2 Examine the challenges encountered in Solid Waste Management policy implementation in Nyendo-Senyange Division, Masaka Municipality, Masaka District.

1.4.2.3 Find out appropriate strategies to address the challenges encountered in Solid Waste Management policy

implementation in Nyendo-Senyange Division, Masaka Municipality, Masaka District.

1.5 Research Questions

1.5.1 What are Solid Waste Management policy implementations that are in Nyendo- Senyange Division, Masaka Municipality, Masaka District?

1.5.2 What challenge(s) that was encountered on Solid Waste Management policy implementation in Nyendo- Senyange Division, Masaka Municipality, Masaka District?

1.5.3 What strategies have can be used to address the challenges encountered on Solid Waste Management policy implementation in Nyendo- Senyange Division, Masaka Municipality, Masaka District?

1.6 Scope of Study

1.6.1 Content Scope

The study focused on assessing SWM policy implementations in the division and then corresponded them with international declarations on waste management, legislations and policies on waste management and status of solid waste management in Uganda. The study also specifically looked for solid waste management measures in Nyendo-Senyange Division, Masaka Municipality, challenges faced in implementing solid waste management policies and strategies that can be used to solve encountered challenges.

1.6.2 Geographical Scope

The Division laid 130KMs west of Capital Kampala along the Trans- Africa high way to Mbarara-Rwanda and Democratic Republic of Congo. Its located at 31,42 East of primary

meridian and 0 24 South of the Equator, general topography of 800m-1622.8m above sea level and is approximately 16.3sq Kms. (Masaka development plan 2016-2021). Climate is tropical and Humid, precipitation occurs throughout the year with peak rainfall being in months of April and May. Rainfall is largely influenced by Lake Victoria, Nakayiba swamp and Namasenene plantation forest. Average rainfall stands at 309mm, mean monthly temperature are between 25C-27C with a monthly minimum at 16C. The vegetation is predominantly covered with natural vegetation cover of natural Savannah type and elephant grass with remnant of pre-Cambrian crystalline basement complex of gneiss and quartzite. Swamps of Nakatiba and Kinsadde are choked papyrus reeds. About the drainage, there are two rivers that are draining in the division. That from North is Kinsadde that separates Senyange Ward from Nyendo Ward and then in the West is Nakayiba separating Nakayiba, Kirumba, Kayirikiti and Kalagala Villages. The town division has narrow man made drainage which cannot contain all the storm run water leading to spillage in the road network thus affecting Nsereko zone and Nakayiba wetland.

1.6.3 Time Scope

The study strictly focused on period 2011-2015 it was the last phase or period of assessing the achievement of MDGs with respect to Environment sustainability. And I reviewed contemporary literature, and analysis primary data findings on Solid Waste Management.

1.7 Significance of the Study

The research findings helped in creating awareness to the community because it provided a clear understanding of the Solid Waste Management policy implementation since it was evidence based study. Once the community is aware, they would be proactive in managing Solid Waste.

Facilitate in redesigning appropriate strategies to enhance Solid Waste Management in the division. This was to promote active participation of community in SWM.

Results were shared with Civil Society Organizations (CSOs) operating in the area of study so that they are able to mainstream and integrate Solid Waste Management in their program documents, policy frame work and work plans. And the study assisted National Environment Management Authority (NEMA) as an authority at lower levels in advocating for rightful and adoptable strategies in managing solid waste.

1.8 Justification of the Study

Poor waste management has been found to result into pollution different components of the environment (water, air, soil) through the leach ate draining and impairing the permeability of soils as well as blockage of drainage systems (NEMA, 1998). So this study provided options in which SWM could be harmonized sustainably without compromising with the future generation to meet their needs.

The study also encouraged promotion of public-private partnership so that they proper Solid Waste Management. The ultimate outcome is having a clean and healthier environment through shared efforts. The study will also intend to come up with a clear understanding of Solid Waste Management policy implementation and policy gaps that needs to be addressed.

1.9 Conceptual Framework

DEPENDENT VARIABLE

Solid waste Management Measures

- Adequate staff personnel recruited
- Solid waste taken to dumping/disposal sites and treated
- Adequate machinery timely procured, utilized and maintained
- Awareness creation on solid waste management

INDEPENDENT VARIABLE

Policy implementation

- By-laws in place, assessed and reviewed and redefined (laws on solid waste collection, storage, disposal & Legal liability)
- Solid waste sorted and collected
- Establishment of dumping/disposal sites
- Sensitization of Community on solid waste management

INTERVENING VARIABLES

Available condition for SWM

- Community Knowledge on by-laws
- Distance to collection sites and cost involved
- Availability of transport means to disposal sites
- Attitude of community members towards Solid Waste Management
- Government policies on Solid waste management
- Existence of Non-Government dealing with environment
- Organizations (NGOs) to play a supportive role in Solid Waste Management

In this conceptual framework indicates the presence of solid waste management policy implementation tested to influence the actual implementation Solid Waste Management policies in Nyendo-Senyange Division, Masaka Municipality, Masaka District. Measures are defined as by-law in place, establishment of solid waste collection and dumping sites and sensitization of community on solid waste management measures. On the other hand (dependent variable), these are human action (adoption) is defined as Solid waste deposited in collection sites, Solid waste taken to disposal sites, sorting of solid waste and enforcing by-laws on solid waste. Once human actions are properly done or handled as per the law, there will be no solid waste misuse.

The framework there is intervening variables that should be kept at play. For instance, the existence of by-laws, solid waste collection and dumping/disposal sites and Sensitization of Community if not constrained by Community Knowledge on by-laws, distance to collection sites and cost involved, Availability of transport means to dumping sites and attitude of community members towards solid waste management it may/will directly lead to proper solid waste management practices.

In conclusion as per the diagram above that the study that the solid waste management measures present will only succeed if they are geared towards attempts to promote proper waste disposal, sorting and enforcement of by-laws and change of attitude of society towards solid waste management. That is Human activities create waste, and the way these wastes are handled, stored, collected and disposed off can pose risks to the environment and to public health. So a planning level all variables (independent, dependent and intervening) should be

catered for just if one is to enhance proper solid waste management.

1.11 Definition of key terms

Solid Waste is something that we no longer need. It is also commonly referred to as rubbish, trash, garbage, refuse, effluents and "unwanted" or unusable materials". (Zake J: 2007) or alternatively any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant.

Solid Waste Management encompasses generation, collection, transportation and disposal of wastes. Authorities have the responsibility to ensure safe, reliable and cost effective removal and disposal of solid waste Garbage is collected from both the well to do households and poor ones NEMA(2000).

A policy is a course or principle of action, adopted or proposed by a government, party, business or individual. (Australia Concise Oxford dictionary). A policy is a plan of action agreed or chosen by a political party. (Oxford dictionary). Personally a policy is a solution to a problem.

Assessment is the process of gathering information using various methods to systematically gauge the effectiveness of a policy.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter, literature be related to the topic of study and discussed as put forward by the various scholars. The literature reviewed in three (03) areas or themes; solid waste management policy implementation measures, Challenges encountered on Solid Waste Management policy implementation and strategies to address the challenges encountered in Solid Waste Management policy implementation. Still in this chapter, (literature review) I critiqued and identified gaps in literature related to objectives under study. This chapter has been sub divided into sub themes (related to objectives) as shown below;

2.1.0 Solid Waste Management policy implementation measures

2.1.1 Existence of laws and acts parliament

Every country globally has gotten ways in which they do execute business and missions related to environment and specifically on Solid Waste but these missions are passed through a legislative body as an arm of government becoming a law or appear as Acts of parliament and executed by the Executive arm through a relevant ministry. For instance Environmental Management and Co-ordination Act (EMCA) No. 8 of 1999 of Kenya is an Act of parliament that provided for the establishment of an appropriate legal and institutional framework for the management of the environment as whole. Section 87 of this Act prohibits against dangerous handling and disposal of wastes. As stipulated in section 87(4), every person whose activities generate wastes shall employ measures essential to minimize wastes through practices such as waste treatment, reclamation and recycling. Sub- section (5) of the

same section observes that any person who contravenes this provision shall be guilty of an offense and liable to imprisonment for a term of not more than two years or to a fine fee of not more than one million shillings or to both such imprisonment and fine. In this context, Act provided for the reduction of solid waste in this case at source or generation level. However, I identified a gap as that the Act is not clear on how to go about with the management of solid waste. I proposed that the act should provide guidelines for effective and efficient implementation and also stated penalties for individuals who did contrary to these guidelines. In Uganda, Solid Waste is managed through a decentralization policy in 1997 whose aim is to strengthen local governments were consolidated by the 1995 constitution and further elaborated by the Local Government Act (LGA) of 1997. This came into operational after realization that the country did not have the capacity centrally to effectively deliver services to the different communities including environment. The major aim was/is to adequately assess the effectiveness of waste management under the decentralization policy a multi-disciplinary approach was used for this study which looks at both technical and socioeconomic issues of waste management under decentralization. These reforms of strengthening Local Government management in Uganda included; the decentralization of environmental management functions including Solid Waste Management. The decentralization policy aimed at empowering the local populations via democratization, participation, accountability, transparency, efficiency and effectiveness. The institutional framework for decentralization in Uganda is hierarchical in structure with responsibilities devolved to the Local councils (LC) at management levels that stretch from the village (LC1) through the Parish (LC11), the Sub-County (LC111), the County (LCIV) and the District (LCV). The main administrative and political

powers at the local level are with the Local Council V which is the administrative political body of the local population. The central government role in the decentralization process was/is fund, coordinate, supervise, capacity building and monitoring of the local governments. The highest organ is the Inter-Ministerial Committee lead by the Ministry of Water and Environment. This committee works very closely with the National Environment Management Authority (NEMA) and donor agencies. However, the national strategy for solid waste management has not been implemented effectively due to several factors including; material, technical, human resource and social factors). Under decentralization the strategy for waste management has not effectively evolved into easily implementable laws by the urban councils, it's attributed to the failure to mainstream environmental policy, lack of participatory planning and institutional weaknesses. Mainstreaming environment policy has been difficult to achieve because of the traditional sectoral approach to planning that is deeply rooted in local government's institutional structures. The application of the decentralization policy to solid waste management therefore has a big gap between discourse and action and the intended environmental protection policy objectives are yet to be achieved. Urban councils therefore, respond to waste crisis rather than adequately planning for solid waste management using the national waste management strategy.

2.1.2 Solid Waste Management planning, collection, disposal

the roles and responsibilities of Solid Waste Management lies in the office of the Town Clerk who is the Principle Accounting Officer at the Division level and responsible for the day today running of the Division among which is solid waste management, Solid Waste Engineer responsible for the collection, transportation and disposal of solid waste, the

Health Inspector responsible for maintaining the division in a healthy environment free from garbage which is one of the public health hazards, the Finance Officer responsible for executing the logistics for solid waste management in the division (Kampala Capital City Authority Act 2010). However these responsibilities are hampered by; finances, technical and political challenges. Still, section IV (2) of the Kampala City Council (Solid Waste Management) Ordinance 2000 places the responsibility of collection of Solid Waste in the hands of Council in this case the division, either by its agents, servants or licensed collectors to ensure that solid waste is collected and conveyed to treatment installations (sites/centers) or approved disposal sites to the extent required to satisfy both public health and environmental conservation requirements. However the divisions are constrained to meet this role due to both financial and technical challenges leading to waste accumulation in some divisions.

Furthermore, the Council is also empowered to prescribe fees for the collection and final disposal of solid waste by the council under section IV (4) of SWM ordinance of 2000. However, the Council did not provide guidelines on the amount of fees to be collected and for which quantity or amounts of solid waste generated because this could create a lope hole for corruption tendencies occur.

2.1.3 Community awareness about Solid Waste

Members of the public are supposed to be educated in matters of waste management such as; pre-sorting/separation of waste according to their categories of organic and inorganic, waste recycling, home composting, waste minimization and adherence to waste management laws (Solid Waste Management Strategy, 2006) . Awareness has done by all parties with potential

including knowledge and funds. They include; civil servants (environment and natural resources persons) and others Non Government Organization, for example Community integrated development initiatives (CIDI) facilitated the establishment of community solid waste management structures, Plan Uganda and AMREF who have been supporting community awareness campaigns and capacity building initiatives through training. However these awareness campaigns should not be theoretical but rather practical so that target groups have hands on for easy adoption and technological transfer.

2.1.4 Management of uncollected wastes by the community

Uncollected wastes are burnt or dumped in open places and this is destructive to the components environment. Some households and individuals, practice solid waste recycling, re-use, recovery, and composting and biogas production. (Mbuligwe and Kassenga (2004) of Tanzania, Mbeng et al. (2009) of Cameroon, Rotich et al. (2006) of Kenya). These waste minimization options with social, economic and environmental benefits. However local authorities in Uganda have shown little interest in these alternative waste management methods. NEMA initiated a project in 2006 under the Clean Development Mechanism (CDM) for solid waste composting in nine municipalities of Uganda to address mounting Solid Waste Management problems. But this project should be studied to assess how it is progressing because we need to understand performance results and draw conclusions. More still an integrated approach to solid waste management involving a mix of centralized and decentralized community-based alternatives such as recycling, re-use & recover (3Rs), composting and anaerobic biogas production could help to obtain sustainable waste management solutions. Mbeng et al. (2009) identified information as critical for the success of the 3Rs in waste management.

2.2.0 Challenges that have been encountered on Solid Waste Management policy implementation

2.2.1 Institutional challenges and limited financing

The Government of Uganda is implementing a sector-wide approach that aims at moving towards comprehensive programs that are well coordinated in all aspects such as funding, equitable allocation of resources and eliminating duplication of efforts (State of Environment Report for Uganda 2007/2008). Although well established at the national level, at the local government/urban council level the sector-wide approach is failing due to the lack of horizontal cooperation between departments and the absent or non-functioning environment committee's lower levels of government. Adoption of sector-wide approach at local levels is vital for the achievement of integrated solid waste management because it employs a holistic approach to planning and management. For effective waste management therefore District Environment Officers (DEOs) that are in charge of environmental management should be supported by the local leadership and helped to effectively collaborate with other departments and stakeholders. The lack of adequate structures and lack of inter-departmental cooperation were causing serious institution weaknesses that hamper waste management. There are also no avenues for effective community participation in waste management planning. This therefore raises the question of whether the decentralization of environmental management in Uganda is 'participatory' or just 'administrative' (Larson & Soto, 2008). Institutionalization of the roles of the community in the long-term plans for waste management is vital to the overall success of a waste management strategy. A participatory approach would facilitate consensus building leading to democratic decentralization for sustainable waste management. More still I observed that Ministry of water and

environment receives total shs590, 740,354 in 2016/17 financial year whereby shs14, 617,000 (for Water and Sanitation Development Facility-South West) including SWM. Waste management is poorly financed because it is not a prioritized activity in all urban councils. Funds for the operation of the urban councils are mainly from external sources (over 50 %) like the central government and donors in the form of grants (Liyala, 2011). This means that independence has not been realized by urban councils. The central governments do not adequately cost-evaluate the decentralized environmental management functions implemented by the urban council. National priorities usually differ from environmental management activities causing low remissions in these sectors by the central governments. The study Masaka district (Uganda) clearly illustrates the solid waste management financing dilemma. It is difficult to solve the dilemma because urban council local revenue sources are limited and locally raised revenues are in some cases as low as 3% of the total annual local authority budgets.

2.2.2 Limited capacity of the councils in lower local governments to handle Solid Waste

Bwaise II generates an estimated 31.423 tons of garbage daily with a composition Biodegradable 12 (76%), Plastics13 (4%), Metall14 (3%), Polythene15 (8%) and others16 (9%) (Solid Waste Management report 2011). The average per capita solid waste generation rate is 1.284-kg/per person/ per day with a high organic content and bulky density. Solid waste management is a responsibility of the council according to the Solid Waste Management ordinance of 2000 for Kampala City Council. This requirement needs Kawempe Division to at least have on average 22 or ten (10) tonnage Lorries disregarding the private sector contribution to be able to collect and transport garbage for the whole municipality to achieve 100% performance, on the

assumption that each vehicle makes 3 trips per day. However, the division operated on an average of 5-five tonnage Lorries which was 30% of the fleet required to enable prompt waste collections and disposal in the division and Bwaise II parish. This was due to poor maintenance and operation of the trucks that have lead to many of the allocated trucks to be grounded. Besides, the vehicle fleet used in management of solid waste. The study also acknowledged that the department of solid waste was understaffed. The division needed over 250 workers to efficiently collect, enforce, supervise and dispose of solid waste. This limited capacity to manage solid waste in Bwaise II has resulted into many people using unconventional methods of disposal which include pits within the backyards where it is regularly burnt, collect them in polythene bags and dumping them in streams, road sides and water drainage channels which leads to blocking of water drainage channels and streams and subsequently causing flooding in the low lying areas during the rainy season unpleasant odors.

2.2.3 Infrastructural challenges

Collection and transportation operations from informal settlements like Bwaise II especially in Nabukalu, Jambula, Katale and Nakamiro zones constitute the largest infrastructural challenge in solid waste management. (Solid Waste Management report 2011). Many poor informal settlements are not easily reached by both the division and the private collectors due to the poor road network. Also the landlords have not been sensitized on the need to manage solid waste and have from time and again put up structures without solid waste management places due to limited land. This has therefore led to several unofficial dumping sites in and around the area mostly located in wetlands, abandoned building and the road sides.

More still, the lack of SWM policy and framework accelerated Solid Waste Management problems. In Nairobi are largely a result of lack of a waste management policy and framework that would aim at improving the standards, efficiency and coverage of waste from "Cradle-to-Grave". Before enactment of Environmental Management and Coordination Act (1999), local authorities (LAs) had monopoly control over sanitation and solid waste management services in Kenya, largely under the Local Government Act (CAP 265) and Public Health Act (CAP 242). This empowered LAs to establish and maintain MSW management services while the latter requires them to provide the services. The Acts, however, neither set standards for the service nor require waste reduction or recycling. In addition, the Acts did not classify waste into municipal, industrial and hazardous types or allocate responsibility over each type. The community and CBOs play only a small role in SWM because they are not. There are many other laws, but of marginal relevance. Therefore an integrated into the formal system and Policies on community-based SWM service, in addition, have been lacking although the situation is changing.

2.2.4 Social economic challenges

Realizing the daunting challenge of keeping the City free of accumulating rotting garbage, KCC embarked on a policy reform to revise the solid waste management ordinances. In 2006 the private sector got involved in collection and transportation of wastes to the land Fill. In the initial stages of implementation, KCC subsidized for residents of low income settlements to allow payment of 500/= per emptying for a household based on door-to-door services. To date however, private operators are charging a fee between 500 and 3,000/= depending on the amount of solid waste generated per trip which fee is too high for the urban poor residents in Bwaise II. The fee is okay because it will reduce solid waste misuse

at source but what will happen to households that fail to pay? They will end up dumping waste especially at night when the urban authorities are not watching.

2.3.0 Appropriate strategies to address the challenges encountered in Solid Waste Management policy implementation.

2.3.1 Integrate solid waste management policies

Integrated solid waste management policies provided strategic approach for sustainable management of waste right from generation, segregation, sorting, treatment, recovery transfer disposal in such a manner that all steps relate to each other. An integrated SWM system required a well integrated policy and developing thus reinforcing SWM regulations (Najmet.,al 2002). However despite of the need for integrated policies for an integrated SWM evidence of level and type of policy integration should be analyzed first. This was because SWM could affect or could be affected by other related policies (external) like financial, urban development and infrastructure and manufacturing

2.3.2 Establishment of community solid waste recycling center

The community in collaboration with SSWARS with support from Water Aid Uganda established a solid waste management center. Originally the center was built to build the capacity of the local community on proper solid waste management and how solid waste can be used as an income generating activity. About 200 local people were trained in solid waste management and four income generating enterprises were established among them was art and craft, briquette making, collection of plastics and scraps and making of composite manure some of which are still ongoing though a small scale due to limited market for their produce and inefficient capital for investment. Besides, sensitization the center through the trained village health

teams and the local leadership, there were organized community clean up exercises where solid waste which had accumulated in some places for long were cleared with support from the division which periodically provided trucks during such events. However some of the community leaders interacted with indicated that these community clean up are no longer taking place due to absence of cleaning tools which were then provided by SSWARS and Community Integrated Development Initiatives (CIDI). Due to both financial and technical challenges, this center has collapsed since the implementers pulled out. Interactions with the caretaker of the facility revealed that due to the non-monetary nature of the facility, it lacked funds to run its activities since the community thought that everything was free and catered for by the donor.

2.3.3 Encourage green productivity for solid waste management

Asian countries are concerned with the ever increasing amount of solid waste in their municipalities. The increase of solid waste in every Asian city is mainly attributed to population increase, industrialization, and the improvement of living standards. The governments have realized that Green Productivity (GP) measures such as reduction, recycling, reuse, and recovery are essential elements in solid-waste management as a form of checking the rapid growth rate of waste in the cities. National awareness campaigns on GP measures are held regularly to promote recycling activities. Waste segregation is the initial stage for GP practices. Residents are encouraged to separate their waste and bring it to the appropriate locations for collection. Paper, scrap metal, glass, and plastic are the common items segregated and collected by the waste pickers. Waste pickers play a significant role in recycling activities. (Asian productivity organization report 2007). More still private sector, however, has seen the potential profits that can be made from treating

waste as a resource and invested in waste recycling activities. Hundreds of scrap dealers, who are scattered throughout urban Nepal, collect recyclable inorganic waste such as metals, plastics, paper, and glass and convert them into raw materials by processing them. This process included sorting, cleaning, size reduction if necessary, and packaging. The materials are then sent to factories in Nepal and India for recycling.

2.3.4 Management of uncollected wastes by the community

Uncollected wastes are burnt (74.1%) or dumped (15.2%) in open places. Some households and individuals, practice solid waste Recycling, re-use, recovery, and composting and biogas production. These are waste minimization options with social, economic and environmental benefits recommended by some authors like Mbuligwe and Kassenga (2004) for Tanzania, Mbeng et al. (2009) for Cameroon, Rotich et al. (2006) for Kenya and Wang et al. (2008) for china. However Local authorities in Uganda have shown little interest in these alternative waste management methods. The NEMA therefore initiated a project in 2006 under the Clean Development Mechanism (CDM) for solid waste composting in nine municipalities of Uganda to address mounting solid waste management problems. I recommend that this project should be studied to assess how it is progressing so that potential actors can draw lesson and hence causing a multiplier effect for sustainability purposes. More still, an integrated approach to solid waste management involving a mix of centralized and decentralized community-based alternatives such as recycling, re-use & recover (3Rs); composting and anaerobic biogas production could help to obtain sustainable waste management solutions. Mbeng et al. (2009) identified information as critical for the success of the 3Rs in waste management.

2.3.5 Translate the proposed waste management strategy into action.

A Policy Framework for the Management of Municipal Solid Waste (2005-2014) stated that best strategies in the world cannot achieve the desired results unless the implementation is decisive and timely. Therefore, the public needs to know how the strategy and policy tools relate to them, and under what time frame these will come into force. Undertake community sensitization and awareness campaigns. Most communities in urban setting including; Nyendo-Senyange have an "I don't care attitude" and limited knowledge about solid waste management which have lead to huge accumulation of solid waste in the area. The division which is also responsible for filing this gap was also limited in capacity to undertake these roles. Hence in order to immediately reduce the amount of solid waste and improve on solid waste management practices, there is need to undertake community sensitization and capacity building on proper solid waste management. This can be done through radio programmes, development and distribution of IEC materials.

2.3.6 Define Clear Roles of Relevant Agencies in a Country

The environmental sanitation policy in Ghana outlines the roles of the City Authority, Kumasi Metropolitan Assembly (KMA), but the implementation of the policy directives is not fully followed (Awortwi, 2003). The implementation of the national environmental sanitation policy in Ghana is not receiving the necessary attention and therefore influences the quality of solid waste service. The Kumasi Metropolitan Assembly has powers conferred on it by the Local Government Act 1993 (Act 462) to promulgate and enforce by-laws to regulate solid waste management, sanitation, cleansing and abatement of nuisance in the Kumasi Metropolis. Companies cannot operate without the approval of or license from the KMA. The three mechanisms of regulation (price regulation,

service quality regulation and access to information regulation) are followed to some extent in Kumasi but still require improvement. Better coordination for effective implementation of a solid waste management collaborative project is also required by the various agencies involved in solid waste management in the recipient country. However, as mentioned earlier, many solid waste management projects in developing countries suffer from the lack of coordination among the relevant agencies, which often results from the lack of clear roles defined for these agencies in solid waste management. To ensure effective institutional support for a collaborative project for solid waste management, the roles and responsibilities of the various agencies involved should be defined clearly and a coordination mechanism be established. This can be done without drafting new legislation or amending the existing one, which is normally a time-consuming exercise in any country. A working group involving officials from the various agencies can be set up to discuss initially the roles and responsibilities of their respective agencies, and the working group can be later upgraded to an administrative committee or task force.

2.3.7 Develop Human Resources in community based organizations

For sustainable Solid Waste Management in developing countries, human resource development is always being part of the external support package. Without local human resources, a collaborative project initiated by external support will not be able to continue. NGOs and international organizations support CBOs through training, marketing and provision of tools and equipment, among other ways. About 55.6 per cent of the CBOs report having been sponsored or facilitated by local and international NGOs and such United Nations agencies like the UNFPA and UNCHS (HABITAT) (Ikiara et al., 2004). Important NGOs include Foundation for Sustainable Development in Africa

(FSDA), Uvumbuzi Club and Undugu Society of Kenya. Other institutions offering assistance to CBOs in Nairobi include the National Council of Churches of Kenya (NCCCK), the private sector, Norwegian aid institutions, and the Japan International Cooperation Agency (JICA). Donor agencies play a direct role and also an indirect one, by funding the NGOs that assist CBOs (King, 1996). However, to develop human resources with technical expertise in Solid Waste Management in the Nyendo-Senyange division, there are strategically important groups for external support, namely; key personnel in the national coordinating unit of the central government, operational managers of selected local governments and university or other higher educational institutions. Among these target groups, the strengthening of human resources in the national coordinating unit and one or two selected local governments is the first priority and should be done in short term while support to higher educational institutions is a long-term programme.

2.3.8 Raise Awareness of the Public and Decision Makers

A key driver to waste avoidance and minimization is public education and partnership. Environmental education plays an important role in inducing; behavioral change and gaining public support. Publicity and education on waste avoidance and reduction, as well as separation and recycling, are to be stepped up to reflect the high priority of Municipal Solid Waste management in public policy. (Policy frame work for management of Municipal Solid Waste (2005-2014). Building on our well-established foundation in public education and engagement, a territory-wide publicity and education campaign can be launched by the Government to spread the waste management message to the public. A series of activities and education programmes intended for people from all walks of life will place emphasis on turning awareness into real action

and empowering them to be agents of change in achieving a more sustainable lifestyle. The most effective environmental campaigns reach people's daily lives and enable them to be responsible for protecting the environment. It is also essential to help the community build capacity so that it can sustain its participation. Further more effective management of solid waste requires the cooperation of the general public. Lifting the priority of, and allocating more resources to, the solid waste management sector needs the support from decision makers. It is, therefore, important to ensure that public and decision makers' awareness activities are incorporated into the external support package. Once the interests of the public and decision makers in improving solid waste management are created, the sustainability of solid waste management projects will be significantly improved. Enhanced awareness of decision makers may lead to changing national socio-economic and industrial development policies and associated government programmes in favor of improving solid waste management systems in developing countries.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presented the methodology used in the study; the study design, area of study, choice and description of the study population, sampling procedure which includes sample size and sampling techniques, data collection methods and Instruments, quality Control, data management, data analysis, ethical considerations and the limitations.

3.2 Research Design

A research design referred to the process of describing the study variables in full length (Dondey, 2002). The research was conducted using case study design through qualitative and quantitative approaches because it brought out a deeper insight and better understanding of assessment of Solid Waste Management Policy implementation in Nyendo-Senyange Division. Yin 1984:23 states, case studies is a preferred strategy when "how" or "when" questions were being posed, when the investigator has little control over events, and when focus is on a contemporary phenomenon within its real-life context. Case studies aim on one or a few research units in the purpose of getting a deep going report of events, relation, experiences or processes that appear in this special unit. (Martyn Denscombe 2000:43) The advantage of the case study research design is that it was going to cover real life events that have occurred in the ongoing process of happening. I focused on specific cases because it (case study) provided more realistic responses.

3.3 Area of Study

The Division lays 130KMs west of Capital Kampala along the Trans- Africa high way to Mbarara-Rwanda and Democratic Republic of Congo. Its located at 31,42 East of primary meridian and 0 24 South of the Equator, general topography of 800m-1622.8m above sea level and is approximately 16.3sq Kms. Climate is tropical and Humid, precipitation occurs throughout the year with peak rainfall being in months of April and May. Rainfall is largely influenced by Lake Victoria, Nakayiba swamp and Namasenene plantation forest. Average rainfall stands at 309mm, mean monthly temperature are between 25C-27C with a monthly minimum at 16C.

The vegetation is predominantly covered with natural vegetation cover of natural Savannah type and elephant grass with remnant of pre-Cambrian crystalline basement complex of gneiss and quartzite. Swamps of Nakatiba and Kinsadde are choked papyrus reeds. About the drainage, there are two rivers that are draining in the division. That from North is Kinsadde that separates Senyange Ward from Nyendo Ward and then in the West is Nakayiba separating Nakayiba, Kirumba, Kayirikiti and Kalagala Villages. The town division has narrow man made drainage which cannot contain all the storm run water leading to spillage in the road network thus affecting Nsereko zone and Nakayiba wetland.

3.4 Study Population

According to Uganda Bureau of Statistics Population Census Report 2014 stated that the Nyendo-Senyange Division had gotten a total population of 44,272 representing 3.8% of the total district population. This comprised of Males 20,815 and Females 23,457. Average household size is 4, annual population growth rate from 2010-2014 was 12% where the majority live in urban areas. Children below 18years constituted 58% of the population. It also noted that 1/5 of the children were

between 0-5years and $\frac{3}{4}$ of the population are below youthful age. The growth rate of the population is 3.5%, fertility rate is 7%. Literacy rate was 82% (of the population aged 10 years) and 4% of the population had a disability. 75% of households had access to safe water, 4% of households had access to toilet facility, 9.3% had access to electricity and 66% of households depend mainly on subsistence farming. Almost all households (97%) used firewood as charcoal for cooking. Only 64% of the dwelling units were constructed with permanent roof, wall and floor materials. 36% of households used word of mouth as their source of information. 58% of households owned a radio and 34% of households owned a bicycle.

3.5 Sample Size

The sample size was twenty nine (29) respondents; three (3) town council staffs (town clerk, LCIII Chairperson and Public Health Officer). Two (02) LCIII councilors from one (01) ward. Two (02) Area local council one chairperson and twenty three (23) were area residents. The researcher believed that the selected sample size would help to capture the diversity and differences that exist in the population. I did not meet the planned target (30) because the public health officer was also working as the environment and natural resources officer.

3.6 Sampling Techniques

3.6.1 Purposive sampling

I used this sampling technique. A purposive sample, also commonly called a judgmental sample, as one that is selected based on the knowledge of a population and the purpose of the study. Asley Crossman (2002). I chose purposive sampling (using homogeneous sampling because it focused on people who shared similar specific characteristics) in identifying key informants because they are taken as duty bearers with authority; town council staff, local leaders and local

residents for individual interviews. One of the key benefits of this sampling method was the ability to gather large amounts of information and variety will, in turn, give you a better cross-section of information. Purposive sampling was relevant in identifying respondents with the relevant knowledge in solid Waste Management measures in area of study.

3.7 Data Collection Methods and Instruments

Different data collection methods and instruments were used to collect more of qualitative and little of quantitative data. The researcher collected data using or administering non structured questionnaires to twenty (20) local residents who included; civil servants, social workers, business community and housewives and maids. In a non structured questionnaire, a list of questions was developed but in respect to research question that is (understanding solid waste management policy measure in place, challenges encountered in solid waste management policy implementation and appropriate starters to enhance solid waste management policy implementations). Other questions were added basically to measure knowledge base of respondents (questions like defining what solid waste management is and what it does mean to them). This tool was chosen simply to allow respondents to freely express ideas and feelings.

Two (02) Focus Group Discussions (FGDs) after developing an interview check list and conditions for usage (defining nature of target group, composition site etc). This method was chosen because gave room for respondents to express their feelings and thoughts about the concern at play. It also allowed them debate over a subject matter and thus measuring their knowledge levels.

3.8 Validity and reliability

Quantitative researchers use validity and reliability as the link between concepts and operational level research. Gillis and Jackson (2002). There are four tests that have been used to establish the quality of any empirical research. And these were construct validity, internal validity, external validity and reliability. (Yin 1994:32). Validity refers to what amount of credibility any research has, and even so if the theory and method fit in the purpose of the study. So in this research I used SWM policy implementation indicators or process had credibility to my study.

Reliability refers to the consistency of a research study or measuring test (Saul McLeod 2013). to the robustness of the measurement process, for example can you measure the same thing so that it shows the same results. Alternatively reliability could also be defined as the extent to which a measurement was free from random errors components. Reliability is often tested in quantitative studies and methods that consisted mostly of statistics. In my research, reliability was used so that I compare results after administering tools to same target group. End results helped me ensure consistency of results in respect to skills and knowledge levels among target group

3.9 Data Analysis

Qualitative data was analyzed manually by me (researcher). I will read through collected data from tools (sources) and identify main ideas, construct and named categories, interpreted data and narrations. Also descriptive phrases and quotations of participant's experiences will be used for analysis and during presentation of findings.

3.10 Ethical Considerations

As one way of addressing ethical concerns, I got appointments from the relevant offices to conduct research so that I do not interfere with office business. Still As part of the Uganda Martyrs University research procedure, a letter of introduction was picked from the University to ensure nice flow by avoiding doubts on the side of respondents. Lastly, respondents will be given a full explanation on why the research will be carried out and the use of the findings. All information given by respondents will be treated with confidentiality, and no names of the respondents were mentioned in this study. Unless consented with a respondent. More still data collection tools were shared with UMU researcher supervisor to get their ideas and input to the area of study. Data tools (some) stamped by relevant duty bearers so as to ensure originality of information. Data will be collected from a convenient place and time to minimize biased responses from the respondents. Collected data will be scrutinized for errors, properly stored coded and analyzed.

3.11 Limitations of study

Some of the sampled respondents were workers in the petty business people, shop keepers, market vendors etc, getting them for interviews and discussions was quite a big challenge. But, the study managed to trace the required sample through getting or making appointments with them. In the event of conducting FGDS, some individuals who were not invited themselves and getting rid of them was challenging because it too quite some time. This was overcome by using reserved venues.

CHAPTER FOUR

DATA PRESENTATION AND DISCUSSION

4.0 Introduction

This presented the characteristics of respondents such as age distribution, sex, period of duration in service delivery, designation and education level. Data analysis and discussion of the study findings according to the objectives exposed the research.

Demographic Characteristics of Respondents

Figure 1 shows designation of respondents

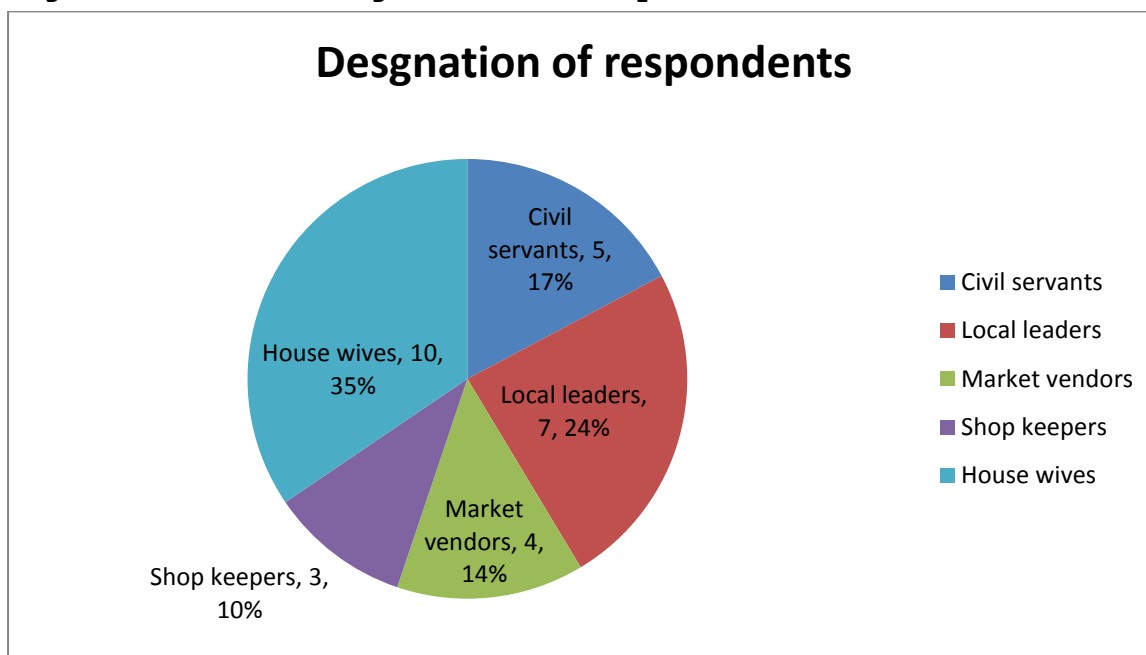
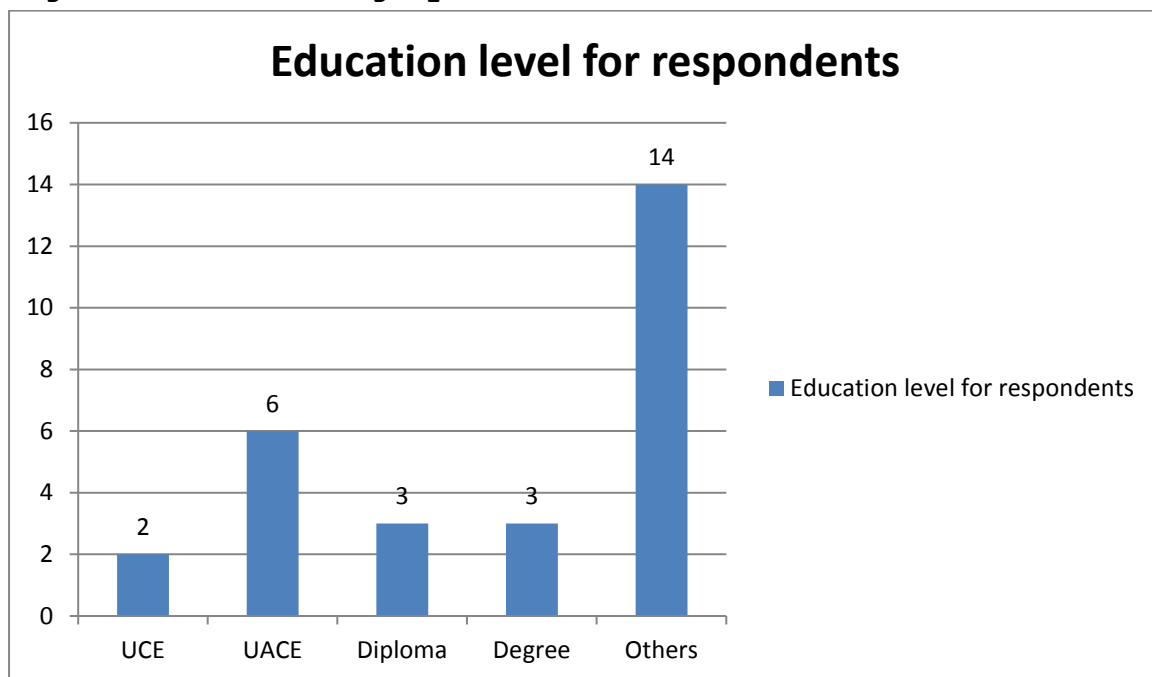


Figure 1 showed designation of respondents for individuals I interviewed. This area was meant to understand and measure knowledge levels existing and duties played (who does what?) as far as Solid Waste Management policy implementation was concerned in the division under study. Almost all target groups were represented since it was purposive. These categories of people showed people who were responsible in ensuring that SWM policy implementation are adhered to. These

included; civil servants (heads of department- public health officer) who were taken to be budget holders and town clerk who was the head of mission in the division. Political leaders and local leaders were playing a monitoring role in the division. Other categories (shop keepers, market vendors, housewives) were people directly or indirectly affected by solid waste.

Figure 2 Shows category of education level



Besides designation, the education level was to understand the scope of Knowledge Attitude and Practices (KAP) that are surfacing in the division. Almost all parties were reached. The others (14) equaling to 50% respondents involved people who stopped in P7, those who never reached this level, teachers (grade three) and the majority were in the informal sector (market vendors and shop keepers). Highly educated respondents

(UCE to degree levels) were able to tell talk about the subject matter like; who was responsible? Challenges

encountered, what could be done? This also created room for the public or community to claim for service not rendered. They did this through writing complaints and vice-versa.

Figure 3 Shows age range distribution for respondents

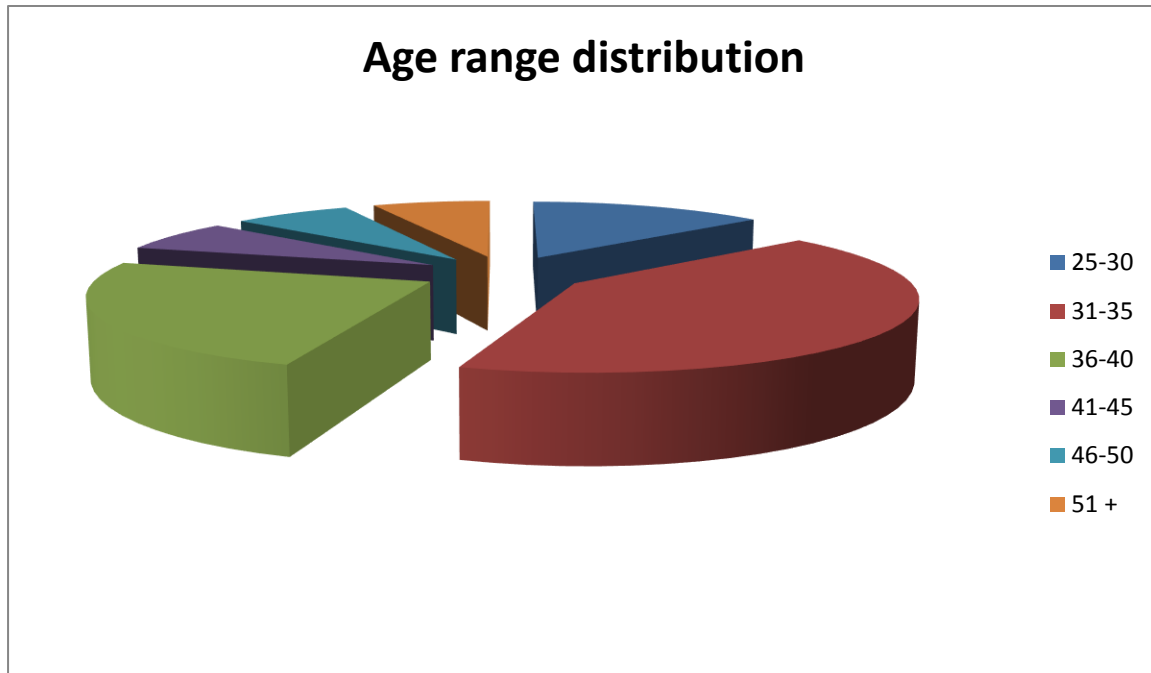
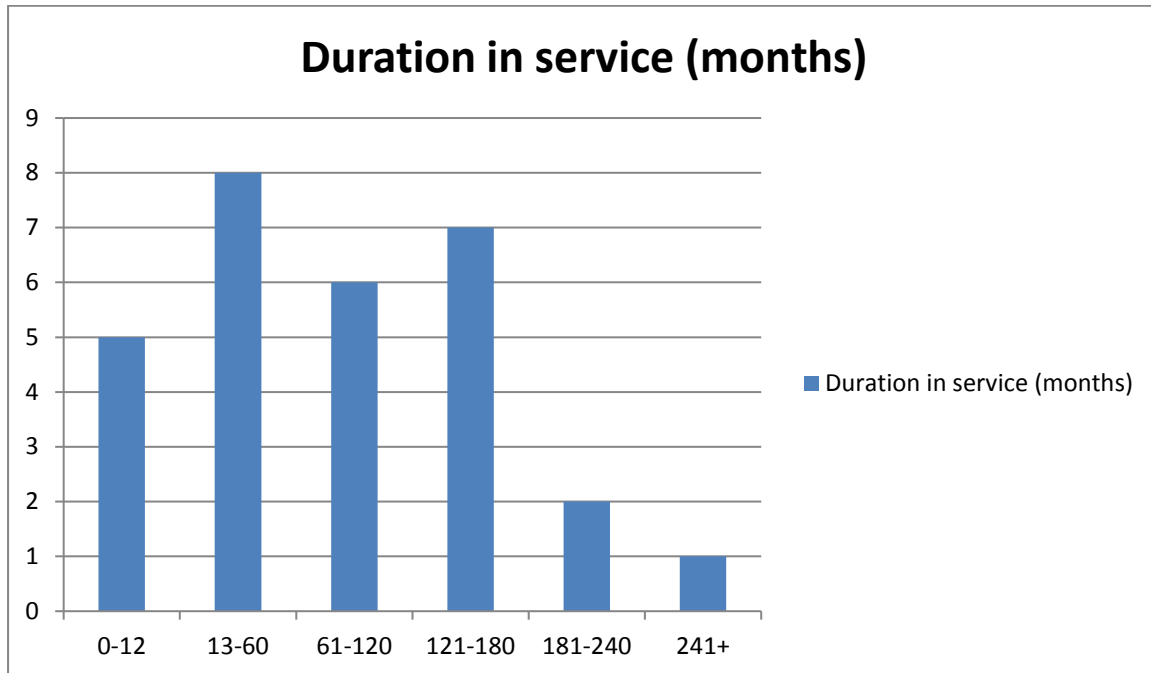


Figure 111 showed age range distribution for respondents, results showed that the majority of respondents were able and potential youth (25-35) meaning that they were perceived to be the greatest contributor of Solid Waste accumulation in the division because they were many in number as compared to other age ranges and without active empowerment and involvement, SWM will be in mace. *"Gunno omulembe gw'abavubuka era tusanye okumannya buli kimu ngamuno mwemuli n'eby'obutonde"*. *"Meaning this generation was for the youth and they were to know and participate in every development agenda including environment"*. A youth councilor said. Other age ranges were adults meaning that they were knew what they were doing because their knowledge base was more than that of the youth. *"The adult were to mentor the youth on how to go about SWM implementation"*. A market vender added

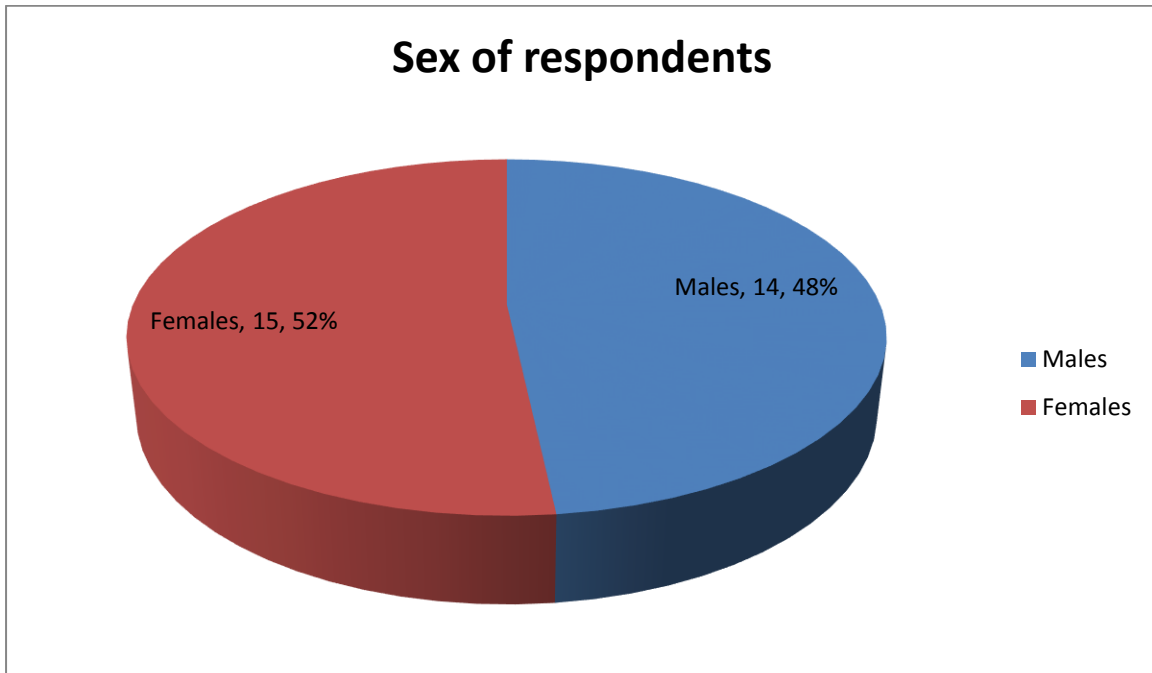
Figure 4 shows period of duration in service delivery



Source: Field Data

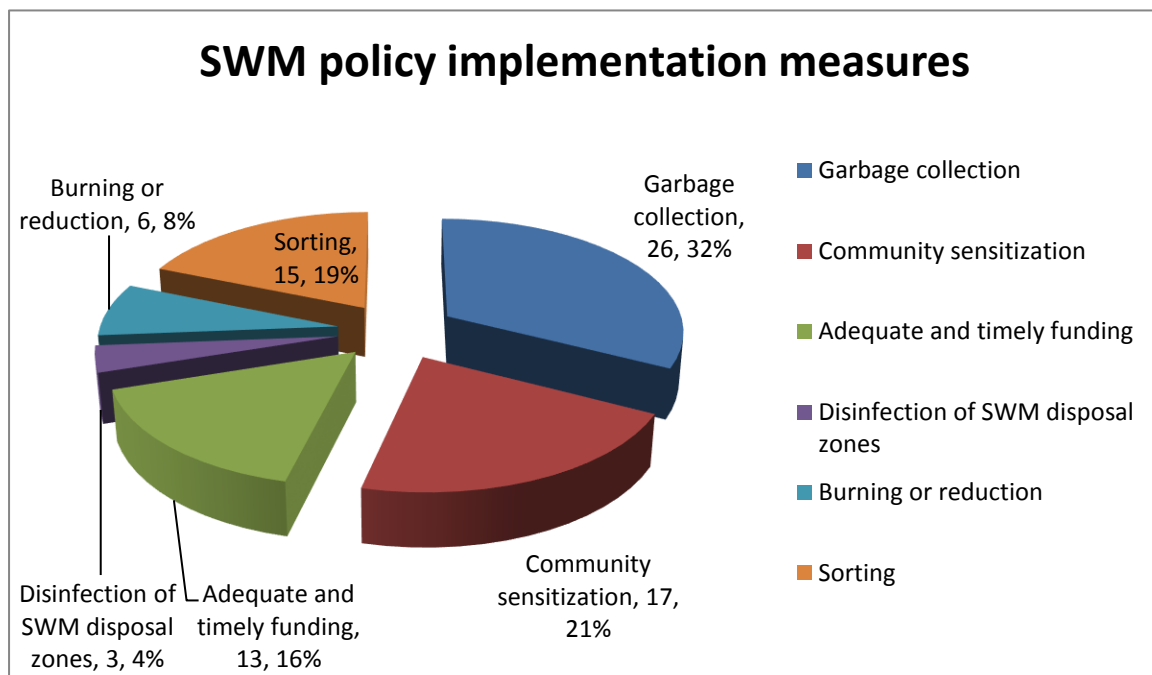
Figure IV above showed the length of time (in months) respondents have been in service delivery, respondents were able to relevant information about the subject matter but the content was varying because some respondents had served for so long and had a huge experience unlike the rest. Respondents who have been in service were able to respond to questions easily and skill they were the ones mentoring the “new” people. The longer the person has stayed in the system the more he/she would understand the dynamics that were in public service.

Figure 5 shows sex of respondents



The figure above shows that, 15 of the target population were females who provided the data required from them and only 14 males could put their views to light. The numbers were nearly balancing because in Solid Waste Management, all people are responsible. This gender disaggregation was aimed receive reactions for all parties. *“Solid waste at house hold level was mainly generated by the females and children because they were engaged in doing domestic works. Males (adult) had little impact at generation level”*. A chair person commented

Figure 6 Solid Waste Management policy implementation measures



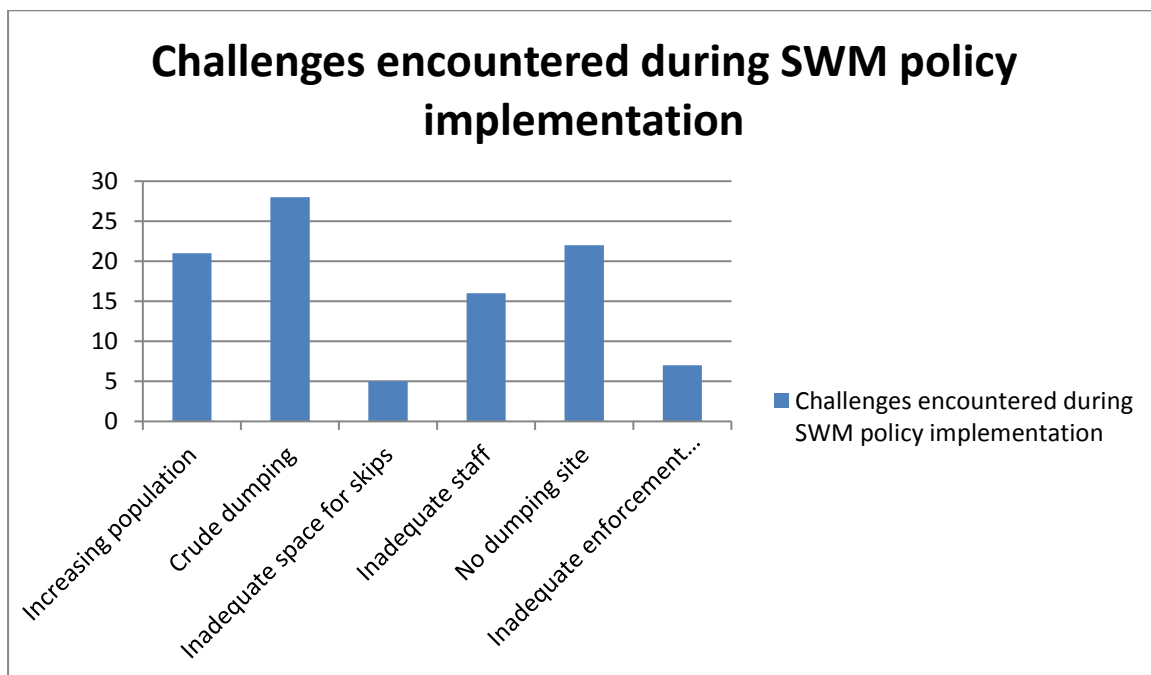
Purposive research showed that the Local Governments including Municipal councils put some policy implementation measures to manage Solid Waste and according to results above, garbage collection 26 responses proved to be more visible in the eyes of respondents reached because it was done in broad day light. That is "a garbage truck collects rubbish "kasasilo" every after two days and house hold members tie it in bags and taken to rubbish truck". A market vender said. And this was attributed to community awareness sessions done by division Public Health office, local leadership and through the media (Radios, Television, newspapers, and public awareness system "Mukalakasa"etc). "More still on community awareness, the issue of refuse management including refuse sorting is ever highly emphasized beginning at source". Division's Public health officer added

The availability of funding from central government was also another policy measure to manage solid waste 13 responses proved this. Approximately sixty million shillings was budgeted 2016/17 specifically to deal with solid waste. This

money is meant to maintain vehicles, out of pocket for community mobilizes and information Education Communication (IEC) materials. This money was also used to procure skips and distributed at different points in the division. Each skip is estimated to be at seven million Uganda shillings (shs 7,000,000/=)

The presence of temporary disposal zones in the division was also another policy measure for solid waste. The division authority entered into contract with land owners to harbor waste. This temporary zone also acts as treatment area including burning and disinfection (6 and responses commented on them respectively).

Figure 7 Challenges that have been encountered during Solid Waste Management policy implementation



Solid Waste Management policy implementation globally encounters many challenges in various municipal councils and divisions as it does in Nyendo-Senyange division. Twenty eight (28) responses said that open or crude dumping not only in division but also in other divisions showed a biggest threat

encountered that it was brought about by many factors including; inadequate skips: "The division has got only three (03) skips "ebipipa" as compared to the increasing population". A division clerk said. "This also made it easy for residents to dump waste most especially at night time since there were fewer patrols in the area by residents or security organs". "Also the distance to the nearest skip was so wide". He added.

Another area of concern was increasing population the division faces (21 responses pointed it out as a concern). This was attributed to daily rural urban migrations; high fertility rates etc. the increasing number of people in the division make the division to generate high solid waste since waste is produced in bulk and on daily basis from various sources including; organic household waste, toxic chemicals from industrial plants, agricultural waste and medical waste. The increasing number of people together with inadequate skip poised a major threat to Solid Waste Management policy implementation in the division.

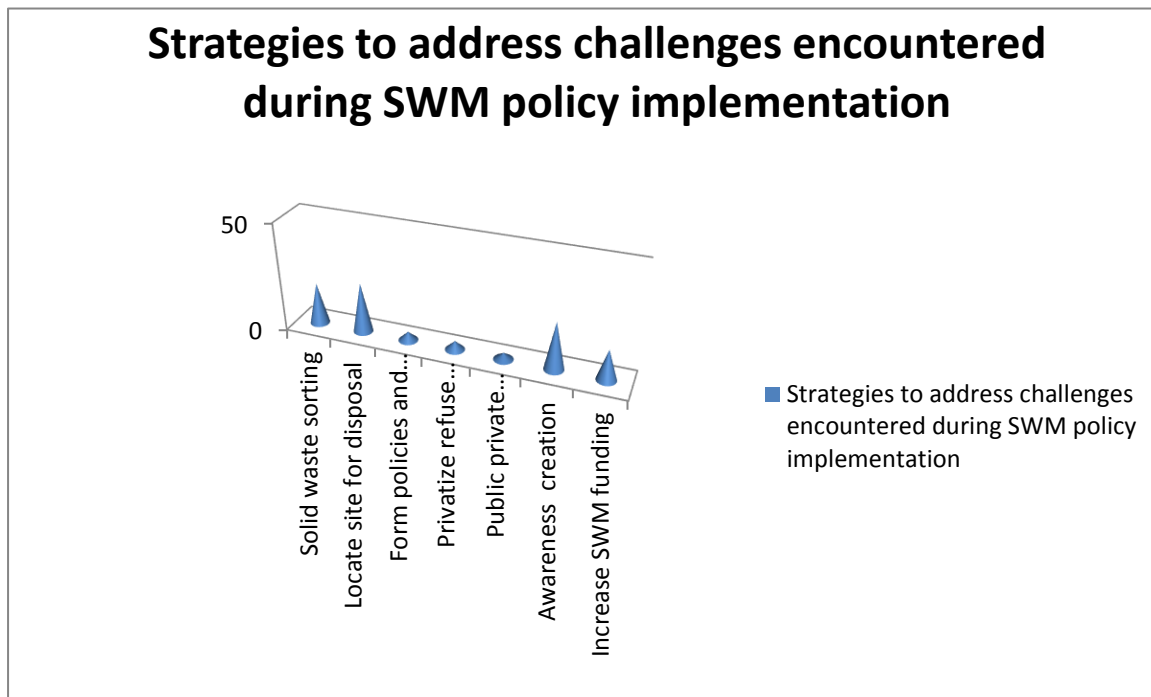
Lack of disposable sites or zones was also another challenge. Twenty two (22) respondents said that "the division currently has no Solid Waste disposal point making it hard for waste to be effectively and efficiently managed". This was one reason as to why there constant delays in Solid Waste collection and crude dumping thus creating chances of unexplainable pollution of major components of the environment (air, water, soil) and increasing health related infections including; cholera, dysentery, diarrhea etc

Fourteen (14) responses said that inadequate enforcement of legislation is also another challenge faced by SWM policy implementation in the division. The limitation in funding, the

division founds it hard to hire more staff to enforce SWM policies. Local people believed that "*amateeka weggali naye tegakola*" meaning policies did exist weren't adopted. This made it easy to see crude dumping with no appropriate measures. "For a SWM policy implementation to be effective and efficient it should have a budget line but there were ever irregular cash flows within the division making legislation not at work". The division chairperson LC111 said

More still the 16 respondents said that division has got limited staff (five 05 staff were responsible for garbage collection). Uganda's constitution 1995 permits municipalities to recruit competent staff but due to inadequate funds and irregular cash flows, it made it difficult to recruit new members on board and hence leading to delays in collection. Still the inadequacy of funding made it difficult for existing staff to be developed since the division in the area of capacity building.

Figure 8 Strategies to address challenges encountered during Solid Waste Management policy implementation



In order to effectively and efficiently address challenges that are encountered during SWM policy implementation in Nyendo-Senyange division, the following strategies would help to address them. Solid waste sorting 22 of the respondents said that sorting of waste was one of the turning point SWM. Solid waste sorting involved separating waste that is biodegradable and non biodegradable materials. Biodegradable materials are added value like composite manure which is a good element soil building and manufacture and for plant growth. And for non biodegradable materials are reused, recycled for better products or redacted completely. SW sorting allowed for 3Rs (Reuse, Recycle and Redact) and hence calling for improved technologies to be used. Like briskets making, plastic generation etc.

Since the division was lacking a permanent deposit site for solid waste, eight (08) respondents suggested that the division should allocate a permanent disposal sites and be known to people of the area. More still the "division should procure more skips that are accessible for the majority of residents". "At least each ward to have two skips". A VHT/shop keeper said. This will try to overcome crude dumping. The division together with relevant authorities should design policies or programs to fight increasing population. Programs on sexual reproductive health should be mainstreamed and integrated in existing programs live wealth creation and many more. More still the division should update data on the number of people the division has. All new arrivals should be registered with the local council one. This will facilitate effective division budgeting.

The division can also adapted to the new public policy management of privatizing, pubic private partnership, corporatism and contracting out especially on refuse collection and management. If refuse collection was privatized to a potential company, residents would receive adequate service. More still in aspect of Pubic Private Partnership (PPP), the division together with private companies created a shared role in SWM. People doing refuse collection and management, they should be given contracts. This will determine their performance at the end of period and it will inform division authority to renew or not renew. The end result in the Public Policy Management is reducing government expenditure and increasing service delivery.

Increase on funding of Solid Waste Management will create room for the division to recruit staff, increase on SWM awareness

campaigns, assessment, mobilization etc. Increased funding is ever coupled with adequate and timely release of funds will improve SWM policy implementation in the division. The division acquired 60 Million Uganda shilling in the last financial year 2015/2016. This more was used to facilitate SWM activities. O the negative part of it more money was spent on procurement.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter focused on conclusions drawn from the study and recommendations. The conclusions and recommendations are based on the findings of the study. These have been drawn in line with the purpose and objectives of the study. The chapter has three sections namely; the first section presented summary of findings section three conclusions and section four is confined to recommendations.

5.1 Summary of Findings

The research was successfully completed and the following were the findings from Nyendo-Senyange division one of divisions in Masaka Municipality, Masaka District. Sampled population defined Solid waste differently and varied from person to person but almost had similar words in common as unused materials/ left over items that are used and these included; polythene, plastic construction materials, materials from mechanical garages etc. the term policy was defined as guidelines used in handling Solid waste.

The division has got numerous policy implementations mainly from ordinances 2011, these vary in respect to location and these are some of the following; at source or household level; Solid waste is sorted. That is bio degradable materials are collected and decomposed for organic benefits "Nakavundira", the non biodegradable ones are reused or burnt (redact), heavy solid wastes (scrap mainly metals, paper and plastic) is collected then sold then taken for recycling. At division level, the Uganda's central government funds all programs

related to solid waste and accountability is given at a later stage. Funded Solid Waste programs included; community mobilization, public awareness, staff recruitment and facilitation, solid waste collection, disposal and periodic assessment.

Solid Waste Management policy still encountered diverse challenges in due course of implementation and these were the highlighted challenges; increasing population that are affected by Early marriages, uncontrolled rural-urban migrations or movements causing to increase in Solid Waste generation, Crude or open dumping emerging from few skips in the area (seven (07) in number) creating a big distance from homes to a nearest skip, the un timely and inadequate funding from central government created irregular cash flows thus halting implementation including staffing facilitation and SWM legislations enforcement .

Several strategies have been put in place to address challenges encountered during implementation of policy on Solid Waste and the following are some of them; formulation of policies and programs to manage population like establishing exact number of people the division has periodically to ease budgeting, presort waste to segregate biodegradable and non biodegradable materials before disposal, privatize of refuse collection, allocate solid waste disposal sites that are accessible, timely removal of waste and treatment by disinfecting.

5.2 Conclusion

Solid waste management policy implementation challenges have continued to surface despite all measures that have been put in place to address the practice. Contributing factors or overwhelming factors needed to be dealt with first. This problem will not end or critically known not until documentation and follow ups on best practices and successes are disseminated to all members in the community is sensitized. Communities should be at fore front for policy intervention since they are responsible for waste production at household level or source.

5.3 Recommendations

These are drawn from the emerging themes of this study as stipulated below;

Solid Waste disposal sites or zones should be several or many in number, permanent and accessible as this will reduce crude dumping. These sites should also be collectively agreed upon by users. And still its management is people centered as this will lead to effective utilization.

Integration of division's Solid Waste Management plans with Non Government Organizations (NGOs) or Civil Society Organizations (CSOs) that are operating in the area of study. This will lead to timely service delivery. Masaka Municipality council should not only focus to refuse collection but also consider refuse management which include; other ways of refuse handling (recycling) turning them into raw materials for good manufacturing.

Always involve community members in coming up with ordinances for Solid Waste Management so that members get a sense of belonging and ownership. Influential persons are identified so that they are part of the equation in managing Solid Waste. This will reduce over spending on waste management and also working within the little funds available in the division. For policy amendment that arises, community members should be educated as this will restrict them to work in bonds since There is need to more capital base in the youth since they appeared more during data collection. Without them (youth), the future will be compromised. They should be involved right from the policy design to evaluation basically for sustainability values. Still the youth should be designed programs to manage increasing population.

Involvement of the Private sector: The involvement of the private sector, in partnership with local communities, in solid waste management activities, has created employment and job opportunities for a substantial number of jobless city residents, many of whom were previously-unemployed women and youth. Gradually, this experience is gaining ground, and is certain to reach other countries.

References

Approved estimates of revenue and expenditures (recurrent and development) FY 2016/17; the republic of Uganda

Liyala C.M., 2011. Modernising Solid Waste Management at Municipal Level: Institutional arrangements in urban centres of East Africa. PhD Thesis. Environmental Policy Series.

Wageningen University. The Netherlands.

Najm.M.A., El-Fadel, M., Ayoub, G., El-Taha, M. & Al-Awar, F. 2002. an optimization model for regional integrated solid waste management 11. Model application and sensitivity analysis. Waste manag Res, 20, 46-54

National Environment Management Authority, 2000

National Environment Management Authority (NEMA). (2007). Clean development mechanism (CDM) e Uganda solid waste composting project. Analysis report.

Ntagize et al., (2001), solid waste management strategic plan for Mpigi district, Uganda

The constitution of the Republic of Uganda 1995

The National Environment Statute (NES) of 1995; the Republic of Uganda

The National Environment Act (NEA) (1999); the Republic of Uganda

The National Environment (Waste Management) Regulations, 1999.

Yin, Robert K., Case Study Research: Design and Methods, 1984:23

Solid Waste Management Strategy (SWMS) of 2006:7

Uganda Bureau of Statistics Population Census Report, 2014

Uganda, 1997 decentralization policy

Uganda, 1997 cap 243 Local Government Act (LGA).

Uganda's policy frame work for management of Municipal Solid Waste (2005-2014)

UNDP, (2005), Uganda Human Development report, United Nations Development Program, Kampala, Uganda,

Zake J, Yawe A, Lutalo R and Kaweesa M (2007), A Base line survey Report for Sustainable Neighbors if focus cities project. Environmental Alert, Kampala, Uganda

APPENDIX 1 QUESTIONNAIRE FOR THE KEY INFORMANTS

Category: Town clerk, Chairperson LCIII, Chair person LCI, Environment and natural resources officer, Health officer

Dear Respondent,

My name is, Wassajja Juuko William a student of Uganda Martyrs University pursuing a degree in Democracy and Development studies. This questionnaire is designed for obtaining data required for my research topic **"A RESEARCH PROPOSAL ON THE ASSESSMENT OF SOLID WASTE MANAGEMENT POLICY IMPLEMENTATION IN UGANDA"** which is an essential for the partial fulfillment of the requirements for the award of Bachelor's degree in Democracy and Development studies. I therefore promise that your responses/ views shall be given high level of confidentiality.

Section A: **Biographic-data**

- 1. Name of respondent:.....
- 2. Age:.....
- 3. Designation:.....
- 4. Length of time in system:.....
- 5. Educational level:.....

SECTION B: Solid Waste Management policy implementation measures

6. What do you understand by term Solid Waste?

.....
.....

.....
.....

7. Are there Solid Waste Management policy implementation measures?

.....
.....

8. If yes, what are the Solid Waste Management policy implementation measures that are available and are being adopted?

.....
.....

9. To what extent or to what level are people engaged in setting ordinances for Solid Waste Management?

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

10. Are there other civil society organization or Non Government organization that you are working with to enhance proper Solid Waste Management? What do they do? How do you partner?.....

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

SECTION C: challenges that has been encountered on Solid Waste Management policy implementation

11. What could be the challenges the division encounters during Solid Waste Management policy implementation?

.....
.....

12. Who are the affected parties for Solid Waste Management policy implementation?

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

SECTION D: Strategies have can be used to address the challenges encountered on Solid Waste Management policy implementation

13. What could the possible ways to address the challenges encountered on Solid Waste Management policy implementation?

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

14. What could be your recommendation effective Solid Waste Management policy implementation in Nyendo-Senyange Division?

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

15. Has the Division or Municipality done any assessment related to Solid Waste Management policy implementation?

.....
.....

END

Interview guide that is to be used during data collection

Reminders for FGD

- Identify categories of respondents (market vendors, shop attendants and neighboring households)
- Focus group composition is 15
- Create appointments with mobilized groups including time and date
- Set venue. Ensure that its accessible, comfortable, private, quiet and free from distractions
- Note: Record down all kinds of wastes respondents given

i). Prayer

ii). Official opening

iii). Introduction of subject (aim, why them, confidentiality)

- Define Solid Waste? (probe)
- What kinds of wastes to households produce? (probe)
- Ask respondents to single out solid waste from the list
- How solid waste is managed in people's homes or places of work or community? (Probe for more responses)
- Where do you get information related to knowledge of Solid Waste Management?
- Who are the service providers you know that they are engaging in Solid Waste Management and what are they doing?

B) Solid waste Management Policy Implementation measures

- Does any one of you know any policy/ guideline that are related to Solid waste Management?
- What is that policy/ guideline
- Where did you get that information?
- Who came up with these measure mentioned?

- Who are responsible for implementing measures for solid waste?
- How often do these policies put in to practice?
- What are households, family or individuals contributions for the measures in place?

C) Challenges that has been encountered on Solid Waste Management policy implementation

- What challenges do face in implementing a policy on solid waste?
- How are these challenges impacting on people's lives?

D) Strategies have can be used to address the challenges encountered on Solid Waste Management policy implementation

- In respect to challenges in section C above, what do you think that can be done to solve them?
- In case of complaints, how can a person complain in order to cause change in service delivery for Solid Waste?
- What recommendation can you give the Division so that there are better services as far as Solid Waste is concerned?

Thank you very much for your wonderful time.