

BUSITEMA UNIVERSITY

FACULTY OF NATURAL RESOURCES AND ENVIRONMENTAL SCIENCES

DEPARTMENT OF NATURAL RESOURCE ECONOMICS.

**COMMUNITY WILLINGNESS TO PAY FOR IMPLEMENTING INTEGRATED
SOLID WASTE MANAGEMENT: A CASE OF KAMULI MUNICIPALITY, KAMULI
DISTRICT.**

BIRUNGI JOAN

BU/UG/2017/17



**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE AWARD OF A DEGREE IN BACHELORS OF SCIENCE
IN NATURAL RESOURCE ECONOMICS OF BUSITEMA UNIVERSITY.**

2020

DECLARATION

I **BIRUNGI JOAN** hereby declare that this research report has been from my own efforts and to the best of my knowledge it has never been submitted to any institution of high learning for the award of a Degree or other academic qualification.

Signature

.....*B. Joan*.....

BIRUNGI JOAN

BU/UG/2017/17

Date.....*1st/02/2021*.....

APPROVAL.

This is to certify that this research report Titled "COMMUNITY WILLINGNESS TO PAY FOR IMPLEMENTING INTEGRATED SOLID WASTE MANAGEMENT: A CASE OF KAMULI MUNICIPALITY, KAMULI DISTRICT" is the original work for Birungi Joan. It has been done under my supervision.

MR. KIFUMBA DAVID NSAJJU

SIGN.....


DATE.....
11/02/2021

DEDICATION

I dedicate this work to my mother Ms. Nambassa Peruth who has been encouraging me during the period of study. Through her support, encouragement and facilitation I have been able to pursue this course till its completion.

ACKNOWLEDGEMENT

I wish to thank the Almighty God for his care, blessings and grace that has enabled me to get this far.

I wish to highly extend my appreciation to my mother Ms. Nambassa Peruth for her firm support, encouragement and prayers.

Special thanks to my supervisor, Mr. Kifumba David for the guidance, support, encouragement and inspiration that I got from him during my research and the preparation of this report.

I also thank the Academic Staff of Busitema University Namasagali Campus for the professional support provided

LIST OF ABBREVIATIONS

KDEAP	Kamuli District Environment Action Plan.
KDLG	Kamuli District Local Government.
Kgs	kilo grams
MSW	Municipal Solid Waste
MSWM	Municipal Solid Waste Management.
NALCOI	Nature for Life Conservation Initiative.
NEMA	National Environment Management authority.
NGOs	Non-Governmental organizations
REG. NO	Registration Number
SWM	Solid waste management
UBOS	Uganda Bureau of Statistics
UNEP	United Nations Environmental Programme.
WTP	Willingness To Accept.
WTA	Willingness To Pay.
%	Percent

TABLE OF CONTENTS

DECLARATION.....	i
APPROVAL.....	1
DEDICATION.....	2
ACKNOWLEDGEMENT.....	3
LIST OF ABBREVIATIONS.....	4
TABLE OF CONTENTS.....	5
LIST OF FIGURES.....	8
CHAPTER ONE.....	10
1.0. INTRODUCTION.....	10
1.1. Background to the study.....	10
1.1.1. Definition of terms.....	10
1.1.2. Global financing of municipal solid waste management.....	11
1.2. Problem statement.....	12
1.3. General and specific objectives.....	13
1.3.1. General objective.....	13
1.3.2. Specific objectives.....	14
1.3.3. Research Questions.....	14
1.4. Justification.....	14
1.5. The Integrated solid waste management conceptual framework.....	15
1.6. Scope of the study.....	15
CHAPTER TWO.....	16
2.0. LITERATURE REVIEW.....	16
2.1. Over view of solid waste management.....	16
2.1.2. Solid wastes sources.....	16
2.1.3. Types of solid wastes.....	17
2.2. Functional elements of integrated solid waste management.....	18
2.2.1. Introduction.....	18
2.2.2. Source reduction.....	19
2.2.3. Recycling.....	19
It is part of the 3Rs defined in waste management.....	19
2.2.4. Composting.....	19
2.2.5. Waste transportation.....	20

2.2.6. Waste disposal	20
2.2.7. Land filling.....	21
2.2.8. Incineration	21
2.3. The stakeholders' willingness to pay for integrated solid waste management methods in the municipality.	22
2.4. Limitations of the study	23
CHAPTER THREE	25
3.0. METHODS OF STUDY.....	25
3.1. STUDY AREA	25
3.1.1. Location	25
3.1.7. Sampling sites	27
3.1.8. Target population	27
3.1.9. The sample size.....	27
3.1.10. Sampling techniques	27
3.1.11. Ethical considerations	28
3.1.12. Research design	28
3.1.13. Methods for data collection.....	28
Secondary sources of data collection.....	29
Primary sources of data.....	29
3.1.14. Data Analysis	30
4.1. Bio data	31
4.1.1. Gender of respondents	31
4.1.2. Age of respondents	31
4.1.3. Education level of respondents	32
4.1.4. House hold size	33
4.1.5. Occupations of respondents	33
4.2.1. Composition of solid wastes generated according to household size	34
4.2.3. Composition of solid waste according to the level of education.....	36
4.4.0. Solid waste management practices	37
4.4.1. Challenges faced under existing solid waste management practices.....	38
4.4.2. Solutions to the solid waste management challenges	38
4.5.0. Willingness to pay Monthly for private companies to recycle wastes.....	39
4.5.1 Willingness to pay for private companies to manage wastes.....	40

4.8.0. Economic instrument for improving solid waste management.....	49
4.8.1. Non-economic instrument should be used to improve solid waste management.....	49
CHAPTER FIVE	51
5.0. DISCUSSION.....	51
5.1. Composition of solid wastes.....	51
5.2. Solid waste management practices.....	51
5.3. Challenges in MSWM in Kamuli Municipality.....	52
5.4. Strategies to solve challenges of waste management in Kamuli Municipality.....	54
5.6. The stakeholders' willingness to pay for effective SWM.....	55
CHAPTER SIX:.....	56
6.0. CONCLUSIONS AND RECOMMENDATIONS	56
6.1. CONCLUSIONS.....	56
6.2. Recommendations.....	56
6.3. Areas for further research	57
REFERENCES.....	58

LIST OF FIGURES

Figure 1.1. Conceptual framework	15
Figure 4.15. Comparison of willingness to pay for private companies to recycle wastes.	40
Figure 4.16. Comparison of respondent's minimum willingness to pay for the integrated solid waste management.	41

ABSTRACT

Municipal solid waste includes solid waste generated from domestic commercial and construction activities by persons that is collected and treated by municipalities. Exponential global population growth rate, urbanization and growth of businesses have resulted into increased municipal solid wastes generated hence an increase in the effective waste management cost by the municipal councils.

The major objective was to assess the economic effectiveness of the existing solid waste management practices. Specific objectives were to determine the physical composition of solid wastes generated among different residents, evaluate current challenges associated with existing solid waste management practices carried out, and establish stakeholders' WTP for implementing preferred integrated solid waste management practices in Kamuli Municipality.

Used a case study and descriptive research design to access 60 respondents. Purposive and stratified random sampling was done using direct observation, questionnaires and interviews to collect primary data. Reviewed Kamuli Municipal solid waste management reports, statistical abstracts, Kamuli District Environmental Action Plan (KDEAP), Journals, Newspapers and internet to obtain secondary data. Qualitative analysis was done in MS Excel.

Findings show that the respondents who attained tertiary level of education and government classes of people are willing to pay the maximum fee and the unemployed are willing to pay the minimum fee for integrated solid waste management.

CHAPTER ONE

1.0. INTRODUCTION

1.1. Background to the study.

1.1.1. Definition of terms

Wastes.

European Union (2010) defines wastes as substances or objects, which are disposed or are intended to be disposed or are required to be disposed by the provisions of national law.

According to Mukisa (2009), wastes refer to items, materials or substances which individuals consider useless at a given time and place.

Usually, the definition of waste depends on types or categories and characteristics of waste under consideration (*personal comment*). Some of the dominant types of waste include: municipal waste, solid waste, hazardous waste and electronic waste

Solid waste

National Solid Waste Management Association (NSWMA,) (2011) defines solid waste as all types of solid waste generated by households and commercial establishments and collected usually by local bodies. It includes both organic and inorganic solid wastes. It refers to solid material, substances or objects generated in daily life or from activities which provide services for daily life (*personal comment*).

Solid waste management practices.

Encompass all activities undertaken from the point of waste generation to final disposal. Solid waste management practices are collection, transportation, processing, recycling or disposal of garbage (MUGAMBWA, E, KIZITO, 2009).

REFERENCES

- ❖ Achankeng, Erick (2003). *Globalization, Urbanization and Municipal Solid Waste Management in Africa, 2003 Conference Proceedings - African on a Global Stage. African Studies Association of Australasia and the Pacific.*
- ❖ African Development Bank, (2002). *Study on Solid Waste Management Options for Africa, Abidjan: African Development Bank. Retrieved from <http://www.sswm.info/library/6111>.*
- ❖ Ahmed, S. A. and M. Ali, (2006). *People as Partners: facilitating People's participation in Public-Private Partnerships in solid waste management. Habitat International Journal Vol. 30, (4); 781-796.*
- ❖ Al-Khatib. (2015). *Willingness To Pay for a clean environment*
- ❖ Asuamah, S.Y., Kumi, E. and Kwartenge, E. (2012). *Attitude toward Recycling and Waste Management. Science Education Development Institute, 2, 158-167.*
- ❖ Ayodeji, I. (2012). *Waste Management Awareness, Knowledge and Practices of Secondary School teachers in Ogun State, Nigeria. The Journal of Solid Waste Technology and Management, 37, 221-234.*
- ❖ EU. (2010). *What a Waste : A Global Review of Solid Waste Management.*
- ❖ Giusti, L. (2009). "A review of waste management practices and their impact on human health." *Waste Management, 29, 2227-2239.*
- ❖ Gombya, S. William and Mukunya Francis (2000). *Solid Waste Management in Kawempe Division: Issues, Challenges and Emerging Options.*
- ❖ Guerrero, L.A., G. Maas and W. Hogland (2013). *Solid waste management challenges for cities in developing countries, Waste Manage., 33: 220-232.*
- ❖ Jomo. (2012). *What a Waste : A Global Review of Solid Waste Management. Kampala: Capita City Authority; Solid waste management Ordinance 2000.*
- ❖ Kamuli district report 2016.
- ❖ KDLG report (2019) *An outlook of the Environmental activities.*

- ❖ *Medina M. (2000). Globalization, Development, and Municipal Solid Waste Management in Third World Cities.*
- ❖ *Mohammed, N. and Z. Elsa, (2003). Waste management programme, UNIDO View Document, No. 3765. Tokyo, Japan.*
- ❖ *Mugagga, Frank (2006). The Public-Private Sector Approach to Municipal Solid Waste.*
- ❖ *MUGAMBWA ,E,KIZITO(2009) what is Waste management?*
- ❖ *Mukisa. (2009). Master thesis Public Participation in Solid Waste Management : Challenges and Prospects . (Issue December).Management, How does it Work in Makindye Division, Kampala District, Uganda.*
- ❖ *Mukisa, Philemon Kirunda (2009). Public Participation in Solid Waste Management:Challenges and Prospects; A case of Kira Town Council, Uganda; University of Agder,Kristiansand, 2009.*
- ❖ *NATIONAL STATE OF ENVIRONMENTAL REPORT 2017*
- ❖ *National Solid Waste Management Strategy for Swaziland Vol I. Swaziland. Retrieved from: www.environment.gov.sz/files/nswms/nswms_vol1.pdf*
- ❖ *NEMA -National Environment Management Authority, (2017). Clean Development mechanism*
- ❖ *(CDM)–Uganda solid waste composting project; Analysis Report – 2016, State of Environment Report for Uganda 2016/17. NEMA, Kampala.357pp.*
- ❖ *Nshimiyina, V. (2015). An assessment of Municipal Solid Waste Management practises. (Issue October).*
- ❖ *Rhoda, K. (2016). Knowledge ,attitude and practise of Kasokoso community members towards solid waste management (Issue November).*
- ❖ *Scarlat, N. et al, (2015). Evaluation of energy potential of Municipal Solid Waste from African urban areas, Renewable and Sustainable Energy Reviews, 50, 1269–1286South East Nigerian. The Journal of Public Health, 1.*

- ❖ *Tadesse, (2004)) The problems of waste management in developing countries.*
- ❖ *UNEP. (2018). Developing Integrated Solid Waste Plan.*
- ❖ *UNITED NATIONS ENVIRONMENTAL PROGRAM (2002)Global Environmental Outlook 4,Environment for development ,Valletta United Nations Environmental Program.*
- ❖ *UNDP, (2017). Urban agriculture: Food, jobs and sustainable cities. UNDP Urban Harvest Working Paper Series, Paper No. 1. New York*
- ❖ *World Development Bank (2010) Comparative Analysis of Solid Waste Management, In: Cities around the World. Paper Delivered at the UK Solid waste Association, Nov.2010*