



**FACULTY OF NATURAL RESOURCES AND ENVIRONMENTAL SCIENCES**

**DEPARTMENT OF NATURAL RESOURCE ECONOMICS**

**INFLUENCE OF ENVIRONMENTAL EDUCATION ON SOLID WASTE**

**MANAGEMENT PRACTICES.**

**CASE OF BAROGOLE WARD - LIRA CITY WEST DIVISION, LIRA CITY**

**BY**

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**SCIENCES IN NATURAL RESOURCE ECONOMICS OF BUSITEMA UNIVERSITY**

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## **DECLARATION**

I KONI JOSHUA, the undersigned declare that this work is my original compilation and has never been presented to any university as partial fulfillment for the award of bachelor's degree.

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## **APPROVAL**

This work has been thoroughly supervised and approved to have fulfilled the requirements for the award of a degree of Bachelor of Sciences in Natural Resource Economics of Busitema University.

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## **DEDICATION**

This research project is specially dedicated to my beloved Mother Mrs. Lillian Adongo and my brothers and sisters.

## **ACKNOWLEDGEMENT**

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## **LIST OF ACRONYMS**

CBOs	Community Based Organizations
LCC	Lira City Council
LCCA	Lira City Council Authority
LCW	Lira City West Division
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organization
QOL	Quality of Life
SDGs	Sustainable Development Goals
SWM	Solid Waste Management
UNEP	United Nations Environment Programs
UNESCO	United Nations Educational, Scientific and Cultural Organization
MOWE	Ministry of Water and Environment.

## **ABSTRACT**

Environmental education is a process that allows individuals to explore environmental issues, engage in problem solving, and take action to improve the environment. As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions.

The general objective of the study was to assess the impact of environmental education on solid waste management practices in Lira City West division -Lira City. The objectives of the study were to establish reasons for methods of solid waste management practiced by residents of different social status in Lira City West division; to find out the reasons for views of the community about the solid waste management practices exhibited in the city and to find out the reasons for different skills used in managing of the different types of solid waste generated in Lira City by the community.

A cross sectional survey research was employed and the study employed both qualitative and quantitative methods. The sample size comprised of 100 respondents selected from the cells in Bar-Ogole Ward using simple random sampling techniques and the data collected was analyzed using excel.

The study found out that the community members have positively changed their attitude towards solid waste management and this is as a result of environmental education. Environmental education is also improving waste management in the city.

The residents are using the simple emptying methods of solid waste management including collection their waste in the sacks and then taking it for dumping at the collection point, there is solid waste sorting carried out with the reason to keep the environment clean though some are

doing it in order to get the recycling materials to sale for money. The study also found out that the community is sorting and segregating solid waste in order to reduce on the solid waste that ended up in the land fill and to get some money out of it for sale.

Education on making compost from organic waste is still need to continue this is because organic waste constitutes 50% of the solid waste generated in the city. Composting of solid waste would reduce on the quantity of waste that end up in the landfills and it would also improve on the quality of our environment as well as reduce on the cost of managing the solid waste.

# CHAPTER ONE

## 1.0. INTRODUCTION

### 1.1. Background.

#### 1.1.1. Definition of terms

##### **Solid waste.**

Describe as any discarded or abandoned material that is used by one person or another and can be liquid or gas. It encompasses a wide array of items generated by human activities, such as household garbage, industrial waste, construction debris, and agricultural refuse (ALAM, 2013).

These materials can be solid, semi-solid, or even contained within containers like bottles, cans, and packaging. Waste management involves the generation, collection, transportation and disposal of waste, be it solid, liquid or gaseous waste. In industrial settings, solid waste might include manufacturing byproducts, such as scrap metal, chemicals, or leftover materials from production processes (ALAM, 2013). Improper handling of wastes can lead to environmental pollution, health hazards, and the depletion of natural resources.

##### **Environmental education.**

This is a process that allows individuals to explore environmental issues, engage in problem solving, and take action to improve the environment (mabilisi, 1990) . As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions (*pers. Comm*).

The components of environmental education are, awareness and sensitivity to the environment and environmental challenges, knowledge and understanding of the environment and environmental challenges, Attitudes of concern for the environment and motivation to improve or maintain environmental quality, Skills to identify and help resolve environmental challenges, Participation in activities that lead to the resolution of environmental challenges. Other components of Environmental Education are waste and pollution management (ALAM, 2013). In Lira City west division and in other places, different sets of waste are generated and are seldom attended to because the people who generate these wastes how improper care in its management (*pers. Comm*).

**Solid waste management.** According to Nathanson (2023) solid waste management refers to collecting, treating, and disposing of solid material that is discarded because it has served its purpose or is no longer useful. Improper disposal of municipal solid waste creates unsanitary conditions, which in turn can lead to pollution of the environment and to the outbreaks of vector-borne diseases. Solid waste management includes sanitary landfill, incineration, pyrolysis, composting and recycling and it has three major components- collection and transportation; reuse or recycling and treatment or safe disposal.

Akkucuk (2015) argued that environmental education equips people with knowledge, skills and attitudes to tackle any environmental crisis. Jatau (2013) stressed that sufficient knowledge of the impact of waste management on health may help people to protect themselves from diarrhea, typhoid fever, cholera, hepatitis, malaria and other infections. Adequate education of the negative impact of poor refuse disposal may encourage people to adopt positive waste management practices which in turn may also promote personal hygiene and a healthy environment.



World bank (2013) observed that environmental education is critical for promoting sustainable development and improving the capacity of people to address environment and development issues. The education program builds on the knowledge, values, skills, experiences and determination of human capacity needed to work on solving waste management issues at an individual and community level.

Ever since the Lira municipality gained A city status, West division and the city at large has been experiencing indiscriminate dumping of solid waste by the inhabitant. There have been environmental studies conducted by the city authority, NGOs, CBOs and politicians that aim at teaching people how to manage the solid waste generated and how to manage the surroundings. People are always adopting, modifying and relinquishing attitudes about solid waste management to fit their ever-changing needs and interests relating to promoting a healthy environment. The step to improved behaviors and practices regarding solid waste management depends on a complex set of social and psychological factors not only environmental education. White (2012) though it is also reported that it is far from truth that providing information to groups and individuals leads them to appropriate personal and organizational actions and performance. This was supported by Charis (2000) who observed that while information and knowledge are crucial to performance, knowledge of an issue is often not sufficient to cause action: "there is only a loose and imperfect relationship between knowing what to do and the ability to act on that knowledge. In Lira city the inhabitants have been demonstrating the knowledge regarding managing solid waste and this is exhibited by the number of individuals handling solid waste in a way that indicate some sense of knowledge.

### **1.1.2. Current status of solid waste management in Uganda's newly created cities**

Two people died in low-lying slum communities in the outskirts of Lira due to flash floods during the first rainy season of (New York, 2019). The flash floods were attributed to among others blockage of drainage channels with solid wastes. Many of the households in slum communities have been reported to indiscriminately manage their waste. The problem is likely to escalate with the estimated increase in population and consequently unplanned urbanization resulting in slum development in sub-Saharan Africa.

The generation of solid waste is indeed on the rise globally. Currently, cities around the world generate over 1.3 billion tonnes of waste annually, with this approximated to increase to 2.2 billion tonnes by 2025 (Hoorweg, 2012). This increase in the amount of solid waste generated is estimated to be much higher in developing countries due to rapid urbanization (Marshall, 2013). Today, Uganda is rapidly growing with annual urbanization and population growth rates of 5.1% and 3.3%, respectively (UBOS, 2018). However, the existing infrastructure for services such as solid waste management does not cope with the increased urbanization and waste generation especially in the newly created cities (MoWE, 2010). Overall, approximately 15,000 tonnes of waste are collected in Lira city and delivered to the landfill every month, which accounts for only 40% of the total waste generated in the city (mbilisi, 2021). The remainder of the waste generated is indiscriminately disposed of resulting in environmental and public health problems such as blockage of drainage channels and consequently flush floods. Other environmental health challenges due to poor solid waste management include pollution (water and soil) resulting in spread of diarrheal diseases (mbilisi, 2021).

Generally, all the newly created cities faced almost similar challenge of solid waste management though the challenges vary ranging from one city to the others and there seems to be lack or inadequate environmental education on solid waste management amidst increasing population and rural urban migration.

## **1.2. Problem statement.**

Lira municipality is one of the newly elevated cities in Uganda and it has a fast-growing population and the majority of the people are poorly handling the solid waste where they still dump their waste generated in places like the water stream, bridges, football pitch, along the road side, verandas, near the compound, people are illegally dumping their waste in an open public place like in the leisure park. This is believed to be rampant due to inadequate environmental education among the community members as far as solid waste management practices is concern. Lira City west division being one of the highly populated divisions in Lira City, there is poor waste management and it is believed to have high environmental problems due to poor waste management. The indiscriminate dumping of waste and indifferent attitude often exhibited by people, businessmen, residents living in city west division prompted this research or study.

The environmental education has been conducted though not in all the places and this environmental education should have helped the inhabitant to realized that the dumping they are doing has negative consequences and it is believed that some people are still dumping their waste poorly even after being educated about the waste management this is because of other reasons

Some inhabitants are properly dumping their waste due to the knowledge they got from the environmental education about the negative impact of poor waste disposal.

### **1.3. Main and specific objective of the study**

#### **1.3.1. Main objective.**

The main objective of this study is to assess the impact of environmental education on solid waste management practices in Lira City West division -Lira City.

#### **1.3.2. Specific objectives.**

1. To establish reasons for methods of solid waste management practiced by residents of different social status in lira city west division.
2. To find out the reasons for views of the community about the solid waste management practices exhibited in the city.
3. To find out the reasons for different skills used in managing of the different types of solid waste generated in lira city by the community.

#### **1.3.3. Research questions.**

1. What are the various methods of solid waste management practiced by residents of different social status in lira city west division and the reasons for using those methods?
2. What are the views of the community towards management of solid waste and the reasons for their views.?
3. What are the different skills used in managing solid waste in lira city by the community and the reasons for using those skills?

## **1.4. Conceptual framework**

### **1.4.1. Dependent variable**

Behavioral Change will finally take place since a change in attitudes ideally translates into changed behaviors. This involves practices such as proper segregation of waste, recycling efforts, reduced use of single-use plastics, and overall responsible waste management practices.

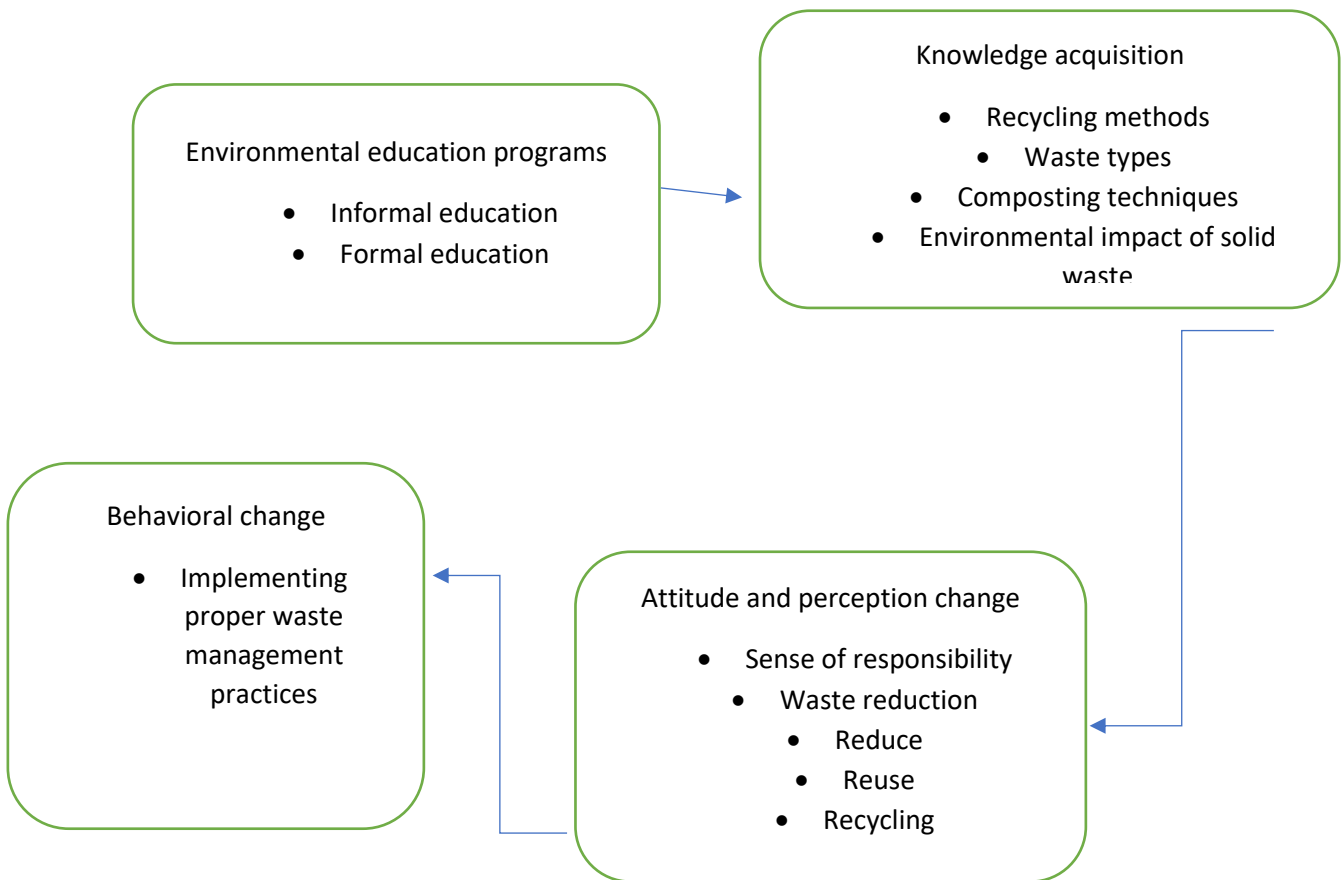
Independent.

Environmental Education Programs include formal and informal educational initiatives designed to raise awareness, impart knowledge, and change attitudes and behaviors regarding waste management. This could be achieved through school curriculum, community workshops, awareness campaigns, etc. The participant can acquire knowledge about waste types, recycling methods, composting techniques, and the environmental impact of solid waste. This knowledge forms the foundation for informed decision-making. Once the community acquired knowledge, their Attitude and Perception Changes and Education influences how individuals will perceive waste. And this can lead to a change in attitudes, fostering a sense of responsibility towards waste reduction, reuse, and recycling. Attitudinal shifts might also include recognizing the environmental consequences of improper waste disposal.

### **1.4.2. Intervening variables.**

Level of environmental education, the perception of the individual, the age of the individual

**(illustration)**



**Figure 1. 1. conceptual framework.**

### **1.5. Scope of the study.**

The study focused on assessing the influence of environmental education on solid waste management practices, the views of the community on the solid waste management and the reasons for using the different skills in managing solid waste.

## **1.6. Significance of the study.**

This study will provide information on how the environmental education influences the community on solid waste management, will also be use by Lira City council authority and other stakeholders to make appropriate policies about solid waste management and environment, and finally will guide the city authority on how to disseminated the more knowledge on how to manage solid waste.

## **1.7. Justification of the study.**

Information provided will guide authorities to determine educational initiatives about solid waste management practices that could result in positive changes in cleanness of the city and health consequent to adopting waste disposal habits, recycling habits and community involvement in waste reduction efforts.

## **1.8. Limitation**

During the data collection some respondent refused to participate and to give their responses about the methods of managing the waste they are using. This was solved by explaining to them that this data was strictly be used for academic purpose and were assured that they would not be victimized after the study.

The distance to sampling sites was far which made it hard to find the exact number of respondents as planned and also made it quit challenging to trek for long distance due to the nature of the study

area with very many houses not supporting riding the motorcycles this was solved by getting a place near the study area and the data was gathered successfully within the short period of time.



## **CHAPTER TWO**

### **2.0. LITERATURE REVIEW.**

#### **2.1. State of solid waste in Uganda.**

##### **2.1.1. Collection coverage.**

Roughly 50% to 60% of waste generated in urban areas is collected by municipal authorities or private waste management firms. However, in rural areas, this figure was significantly lower, often below 10%. (MOWE, 2020).

##### **2.1.2. Open dumping and uncontrolled disposal.**

A significant portion, around 30% to 40%, of the waste collected or generated was often openly dumped or disposed of in uncontrolled landfills, causing environmental pollution and health hazards (Antwi, 2020).

##### **2.1.3. Informal sector involvement.**

The informal sector played a significant role in waste management, with scavengers and informal waste pickers collecting recyclable materials from waste dumps, contributing to the recycling rate, which was estimated at around 5% to 10%. (Antwi, 2020).

#### **2.1.4. Limited recycling and formal treatment facilities.**

Only a small percentage, about 5% or less, of the waste underwent formal recycling or treatment processes in established facilities. Recycling initiatives were limited, and there was a lack of infrastructure for proper waste segregation and recycling. (Antwi, 2020)

#### **2.1.5. Organic waste and composting.**

According to Okot (2011) organic waste, which makes up a significant portion of solid waste, often remained largely untreated. Composting initiatives were present in some areas, but the overall percentage of organic waste composted was relatively low.

### **2.2. Concept of environmental education.**

#### **2.2.1. Role of education in improving solid waste management activities.**

According to Salequzzaman (2016) Education is used to instill knowledge, change attitude and develop skills to transform communities in management of resources including waste management argued that education is critical for promoting sustainable development and improving the capacity of people to address environment and development issues. The education program builds on the knowledge, values, skills, experiences and determination of human capacity needed to work on solving waste management issues at an individual and community level.

The World Bank (2000) argued that education equips people with knowledge, skills and attitudes to tackle any crisis. According to Jatau (2013) stressed that sufficient knowledge of the impact of waste management on health may help people to protect themselves from diarrhea, typhoid fever, cholera, hepatitis, malaria and other infections. Adequate environmental education on the negative

impact of poor refuse disposal may encourage people to adopt positive waste management practices which in turn may also promote personal hygiene and a healthy environment.

According to Hogan (2002) environmentally engaging education activities provide a platform on which a community begins to exercise the knowledge needed to improve its environment. Political and social changes across the continent, including the rise of NGOs, have fostered an increased awareness of environmental issues among the public. Urban populations have become more involved in the issues surrounding municipal Solid Waste Management (Troschinetz, 2000) in UNEP report journal.

Environmental Education is all educational activities that foster the development of environmentally literate citizens. Environmental Education is an organized effort to teach people about how the eco-system functions and how human beings manage their eco-system in order to live a sustainable life (Srivastava, 2010). Environmental Education is a learning process that increases people's knowledge and awareness about the environment and its associated challenges, and foster's attitude, motivations and commitments to make informed decisions and take responsible action (Erika Péntzesné Kónya, 2021) . It also refers to organized efforts to teach about how natural environment function and particularly, how human beings can manage their behavior and ecosystems in order to live sustainably (Gruenewald, 2004). Environmental Education teaches individuals how to weigh various sides of an issue through critical thinking thereby enhancing their own problem-solving and decision-making skill.

### **2.2.2. Importance of environmental education.**

According to Hogan (2002), environmentally engaging education activities provide a platform on which a community begins to exercise the knowledge needed to improve its environment. Political

and social changes across the continent, including the rise of NGOs, have fostered and increased awareness of environmental issues among the public through environmental education.

Environmental education refers to organized efforts to teach how natural environments function, and particularly, how human beings can manage behavior and ecosystems to live sustainably. It is a multi-disciplinary field integrating disciplines such as biology, chemistry, physics, ecology, earth science, atmospheric science, mathematics, and geography.

## **2.3. Introduction to concepts of waste collection, disposal & management.**

### **2.3.1. Waste collection**

According to Pires (2019) is the collection of used materials from point of production (residential, industrial commercial, institutional) to the point of treatment or disposal. Waste collection is a critical component to waste management. Refuse collection involves the use of different transport equipment and machinery to remove refuse by the aid of the collecting crew either from the individual premises or from approved refuse depots. Waste from homes, industries, schools and streets are generally collected by local authorities through regular waste collection, or by special collections for recycling (pers. comm). Within hot climates such as our country Uganda, waste should be collected at least twice a week to control fly breeding, and the harboring of other pests in the community (Hoornweg, 2012). Other factors to consider when deciding on frequency of collection are the odors caused by decomposition and the accumulated quantities.

According to Filatov (2018) the problems of organizing and managing the recycling of industrial waste have recently been more and more often raised not only as a part of environmental research, but also when discussing the economic development strategies of countries and individual regions.

The economic and environmental performance of the entire system can be impacted by the way that materials are collected and sorted. In many instances, the collection point will be an interface where waste generators and waste collectors that must be carefully managed if the system is to be effective. Waste generators require waste collection with minimal inconvenience, while collectors must be able to collect waste in a way that is compatible with the planned treatment and processing methods if the waste management system is to be sustainable (McDougall, 2001)

Ebele (2017) defines Waste management as the collection, transport, processing, recycling, or disposal and monitoring of waste materials for sustainable development. Solid waste management is generally seen as the collection, transfer, storage, separation, recovery, recycling and final disposal of waste materials usually produced by human activities in an effort to reduce their effect on health or local aesthetic and environmental damage. According to (ALAM, 2013).

### **2.3.2. The primary objectives of effective solid waste management**

The elimination of health hazards in the community by removing all the physical, biological and chemical agents like bottles, vectors or diseases and toxic substances that are harmful to man in his environment. To protect the natural environment being polluted or damaged. This is achieved by discouragement of wastes being dumped indiscriminately on either land or river. To provide gainful employment for many young men who would have been jobless.

Enhancement of regular supply of raw materials to industries through salvaging and recycling of materials of economic value from wastes. Waste generation in Lira City west is quite high due to the economic activities and population density in the area (pers, comm). Households generate high quantities of mostly organic waste from food waste and yard waste. High quantities of plastic waste

are generated from food containers; beverages and packaging. Increase in wastes generation period is during raining season due to increase in agriculture waste production (Bamisaiye, 1984)

In general, the most appropriate waste collection method is the one which best serves the need of a community and take into account factors of efficiency, health and environmental requirements, physical demand and zoning parameters (Pasang, 2007). The methods of solid waste management that are supposed to be used for effective solid waste management such as simple emptying methods carry both advantages and disadvantages. (Weingarten, 2012) indicates for instance, that the simple emptying method which requires special vehicles, standardized waste containers and road access can be viewed as a drawback in developing communities, whereas curbside and informal collection, which have been both proven to alleviate poverty, despite their high physical demand on personnel (ALAM, 2013)

#### **2.4. Factors affecting solid waste management.**

Municipalities have failed to effectively manage solid waste due to financial factors. The huge expenditure needed to provide the service (Sharholy, 2007) the absence of financial support, limited resources, the unwillingness of the users to pay for the service (Sujauddin, 2008) and lack of proper use of economic instruments have hampered the delivery of proper waste management services (Sharholy, 2008) .The involvement of the private sector is a factor that could improve the efficiency of the system. It is generally regarded that waste management is the sole duty and responsibility of local authorities, and that the public is not expected to contribute (Vidanaarachchi, 2008). The operational efficiency of solid waste management depends upon the active participation of both the municipal agency and the citizens, therefore, socio cultural aspects mentioned by some scholars include people participating in decision making (Sharholy, 2008) community awareness and societal apathy for contributing in solutions management deficiencies are often observed in the municipalities. According to Lo Chung (2008)

concluded that the information available is very scanty from the public domain. The extremely limited information is not complete or is scattered around various agencies concerned, therefore, it is extremely difficult to gain an insight into the complex problem of municipal solid waste management.

## **2.5. Reason why people exhibit certain solid waste management practices.**

Education level is included to help determine how much exposure and knowledge the respondents have acquired on the subject of solid waste management. The influence of this variable can also be a vital factor which could affect the perception of the public on solid waste management and it leads to adoption of certain types of waste collection, disposal methods to be used by the residents. people with higher education level with positive attitude towards clean environment employ good and safe waste management practices compared to those with low level of education. (Olukanni, 2020).

Income level. People also tend to use certain solid waste management methods due to the level of income one earns. people with low income have a reason for using ineffective methods of waste control such as burning compared to people with high income since they can use incineration methods and even engaged in recycling the waste (Olukanni, 2020).

## **2.6. Views about solid waste management practices**

### **2.6.1. Solid waste collection.**

The collection of waste is the first step to effective solid waste management. This includes collecting waste from the source and transporting it to be treated and/or disposed of. The waste collection process starts with generating, source segregation, storage, and transportation (Das, 2015). Collection and transporting of waste are the most

critical and cost-effective part of solid waste management because it is laborious and requires the use of vehicles (Beliën, 2014). Factors ranging from the route to transport waste and the availability of storage for waste are all to be considered. It is a multipart process and requires intricate logistics management in order to operate well for a long time (MA, 2020).

The collection system for waste depends on the source and type of waste. For instance, the collection system of waste from an urban area would not work in a rural area because of the difference in the amount of waste generated per a given time. Another scenario to look at is that waste from residential areas would be different from waste from commercial or industrial areas hence, cannot be collected the same way. Some areas generate more perishable waste products than others, hence the need for them to be collected and transported frequently. The type and quantity of waste produced will determine the scale and nature of the collection process. The collection of recyclable wastes has become very essential to most societies looking toward sustainable waste management.

### **2.6.2. Views regarding solid waste collection**

According to Yeboah (2023) the following are the views regarding solid waste collection.

**Educational Content.** Create content that educates people on the importance of proper waste disposal and recycling. Explain the environmental impact and benefits of responsible waste management.

**Tutorial Videos.** Develop step-by-step tutorials on proper waste sorting, recycling methods, and composting. Visual guides can be very effective in helping people understand and implement better waste practices.

**Community Involvement.** Showcase community clean-up events or initiatives. Highlight the positive impact of collective efforts in keeping the environment clean.

**Social Media Challenges.** Launch challenges on social media platforms to encourage people to share their innovative waste reduction or recycling ideas. This can create a sense of community and engagement.



Collaborate with Influencers. Partner with influencers in the sustainability or environmental space to create content or campaigns related to waste collection. Their audience may be more receptive to such messages.

### **2.6.3. Reasons for the views on waste collection.**

According to Antwi (2023) the reasons for the views varies according to different field.

**Environmental Awareness.** Individuals who are environmentally conscious may view solid waste collection as a critical component of sustainable living. They understand the impact of improper waste disposal on ecosystems, wildlife, and overall environmental health.

**Public Health Concerns.** People concerned about public health and sanitation recognize the importance of effective waste collection in preventing the spread of diseases. Proper waste management helps control the breeding of disease vectors like mosquitoes and reduces health risks.

**Community Aesthetics.** Some individuals may emphasize the aesthetic aspect of a clean and well-maintained community. Regular solid waste collection contributes to a visually pleasing environment and enhances overall community well-being.

**Legal Compliance.** Compliance with local regulations and laws governing waste management is a reason for supporting solid waste collection. People may recognize the legal obligations and appreciate efforts to maintain a clean and lawful community.

**Economic Impact.** Proper waste collection can positively impact the local economy. It creates jobs in the waste management sector and can lead to the development of recycling and waste-to-energy industries.

Education and Awareness Levels. Knowledge about the consequences of improper waste disposal and the benefits of recycling can influence one's perspective. Those with higher levels of education and awareness are likely to support effective waste collection practices.

Cultural Practices. Cultural norms and practices can also shape views on solid waste collection. In some cultures, there may be a strong tradition of environmental stewardship, while in others, there might be less emphasis on waste management.

Innovations in Waste Management. Individuals interested in technological advancements and innovations may appreciate modern waste management practices, such as smart waste bins, recycling programs, and sustainable waste reduction initiatives.

#### **2.6.4. Waste segregation.**

One modern system of waste collection is segregation at the source in order to minimize the complication of sorting through several heaps of waste before treatment. Waste segregation is considered to be an effective way for initiating the recycling process (Mabilisi, 2014). Source segregation is defined as separating 'useful' waste materials from the waste stream right after the waste has been generated. Waste is segregated either by recyclability or degradability. Ideally, waste should be segregated based on whether the material is paper, glass, organic, or plastic.

In doing this, the amount of waste that goes to landfills is reduced (Mabilisi, 2014). Source segregation of waste increases the amount of recycling, reuse, and recovery. When recyclable waste is not segregated at the source and is mixed with organic matter it makes sorting and recycling very difficult. In addition, the moisture content in waste is less when it is segregated at

the source, this makes it easy for disposal by incinerating. Burning of recyclable wastes like plastics produces harmful gasses that harm the environment and its inhabitants (Susanth, 2021).

Solid Waste segregation begins at the basic source of waste like households, schools, offices, etc. The common method of segregating solid waste is to get different bins for the different waste types. These bins are labeled and placed conveniently so that after primary use, waste materials are stored in their appropriate bin. When the time comes for the waste to be transported, recyclable wastes are taken to the recycling sites while non-recyclable waste is taken to be disposed of. This helps to achieve a better recirculating rate for waste management systems (Rousta K, 2017). The quality of raw materials for recycling is much higher in source-segregated waste than it is in materials sorted from a mixed waste stream.

It is important that all solid wastes generated must be stored properly while waiting to be transported. Plastic dustbins are the most commonly used waste storage devices in this part of the world. The bin must have a tight lid to prevent fumes from polluting the environment and also diseases from breeding from it. These bins should also be conveniently placed and accessible to waste generators and collectors.

#### **2.6.5. Reasons for proper waste segregation before disposal.**

Segregation means separating the refuse mainly into different categories; Reusable, Biodegradable and Non-biodegradable. Joel Ongia (mbilisi, 2021) observed that Segregation of waste is important before disposal because it lowers the costs of disposing of hazardous waste and consequently, it is more expensive to dispose trash that contains both recyclable items and hazardous waste.

## **CHAPTER THREE**

### **3.0. METHODS OF STUDY.**

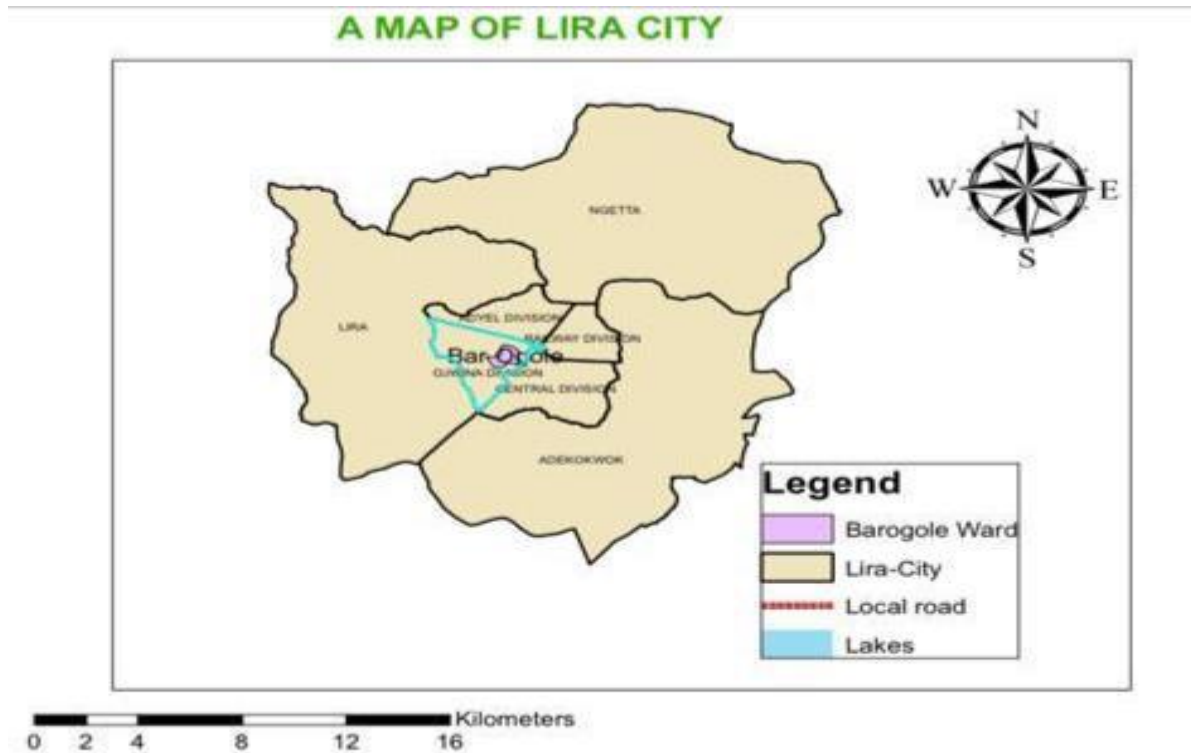
#### **3.1. Pilot study**

This was conducted in Bar- Ogole ward and the to get familiar with the solid waste management practices carried out in the area given the current environmental challenges such as water borne diseases, blocking of water channels vectors spreading diseases among others caused by poor handling of solid waste. five questionnaires were administered to find out if the questions generated data related to the study objectives. this was also to find out if any additional data collection methods would be used.

#### **3.2. Area of study.**

##### **3.2.1. Location of Bar -Ogole ward in Lira City**

Bar-Ogole ward is located in Lira city west division, Lira city- Northern Uganda, Lango Sub Region. It is geographically located in the center of Uganda at latitude 20' 17' north of the equator and longitude 32' 56' east of the principal Mediterranean.



**Figure 3. 1. Map showing Bar - Ogole ward Lira city**

### **3.3. Area of coverage.**

#### **3.3.1. Economic activities.**

Waste generation is the daily activities taking place in Lira city but waste management is still a challenge in the area.

The people of Lira practice agriculture, business stock farming for a living and all these activities lead to generation of solid waste. Few people are occupied with civil servants where they enhance their incomes, some are in money saving associations where they save their money borrow to others so as it accumulates and the money divided amongst the association members.

### **3.3.2. Study population size.**

The study population for the research comprised of residents and in Bar-Ogole ward in Lira city West division the population was estimated to be 65500 People.it provided information about influence of environmental education on solid waste management practices in Lira city.

### **3.3.3. Climate.**

The climate of the district is modified by the swamp area surrounding it. The rainy season is March to November, with a marked minimum in June, and marked peaks in April to May and August to October. December and January are the driest months. Annual rainfall patterns totals are between 1100- 1200 mm but rainfall reliability is often poor leading to frequent draughts and floods. In recent years rainfall has been unreliable and unpredictable, affecting agricultural and livestock activities.

### **3.3.4. Vegetation structure of Lira.**

The vegetation of Lira is traversed by few swamps and some wetlands. Lira has vegetation, which can best be described as wooded savannah, savannah, scanty forests and riparian vegetation. The wooded savannah mainly comprises mostly *Vachellia tortilis* (Acacia) tree species.

### **3.3.5. Type of soil.**

The soils are to a large extent, poor, shallow and light textured with large sandy loam contents. Most of the areas in Lira City are underlain by rocks of the basement complex Precambrian age that include granites, magnolites, gneiss, schists and quartzites.

### **3.3.6. Study sites.**

Bar-Ogole ward comprised of the cells of Wii Gweng, Tee dam, Okao-Oyere, Camp Swahili and Tee -Atat.

## **3.4. Sampling procedure and sampling size.**

### **3.4.1. Sample size.**

Information will be obtained from a sample of 100 respondents to represent the whole population of Bar Ogole ward among those the sample consisted of local leaders, Lira City council workers, community members and CBOs.

The sample size of the study was calculated using the formula of;  $n = N / (1 + N \cdot e^2)$ , where n is the desired sample size (this was used because the population is less than 100), N is the total population and, e is the estimate or probability of the population size which is always 0.05 (constant).

### **3.4.2. Sampling procedure.**

A simple random sampling technique was used to select the respondents from some of the Cells in Bar-Ogole ward. This is preferred because of its ability to eliminate bias in the representative sample. purposive sampling technique was used to obtain response from Leaders, NGOs.

### **3.5. Ethical considerations.**

Sample members were asked to sign a debriefing and withdrawal letter to assure respondents' that their participation in the research was voluntary and that they were free to withdraw from it at any point and for any reason. Respondents were fully informed regarding the objectives of the study and they were assured that their answers would be treated as confidential and used only for academic purposes and only for the purpose of the particular research. Respondents were not harmed or abused both physically and psychologically during the conduction of research.

Respondents were also assured of confidentiality and anonymity hence this created and maintained a climate of confidence.

### **3.6. Data types and sources.**

#### **3.6.1. Secondary data.**

Information about the solid waste management practices was got from journals about solid waste, new paper, books, reports from the city, articles from the internet. The secondary data helped to complement and compare data from the field by relating to primary data from the local people or the community.

#### **3.6.2. Primary data.**

Face to face interviews were conducted with the help of questionnaires and direct observations were conducted for primary data.



### **3.6.3. Data collection methods.**

In order to address the objectives of the research, the researcher used the following methods/instruments to gather the necessary information and collect data.

#### **Questionnaires**

These were issued to the selected respondents, made up of open and closed ended questions. The questionnaires were self-administered amongst the respondents and was drafted in English but for those that could not understand English, the researcher was translating for them in local language.

#### **Interview guide.**

Personal interviews were conducted with the key informants. such as local leaders, lira city council leaders, community members to get information to answer the research questions.

#### **Observation.**

This involved moving around the study areas and observing how the community are handling the solid waste.

### **3.7. Data management and analysis.**

#### **3.7.1. Data processing and data analysis.**

Data was captured using Microsoft Excel and exported to SPSS for analysis where descriptive statistics and inferential statistics was employed.

#### **3.7.2. Data processing.**

The data was collected, verified and edited for completeness and accuracy. Data processing was carried out using editing coding and tabulation.

#### **3.7.3. Data analysis and interpretation.**

Analysis was done using Excel, bar graphs were used to compare the reasons for using the different methods for managing solid waste. Histograms were used to compare the reasons for using different skills in managing solid waste between gender of the respondents and other variables.

#### **3.7.4. Data presentation.**

Data was presented using graphs and percentages these presentations helped in the interpretation to come up with results basing on these graphs. Pie charts and histograms were used to reflect the proportion of the respondents by sex, age, education levels, occupation.

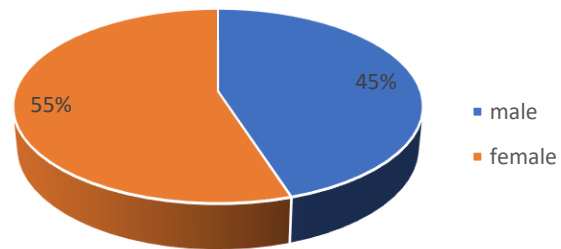
## CHAPTER FOUR

### 4.0. RESULTS

#### 4.1. Solid waste management practices

##### 4.1.1. Composition of respondents according to gender.

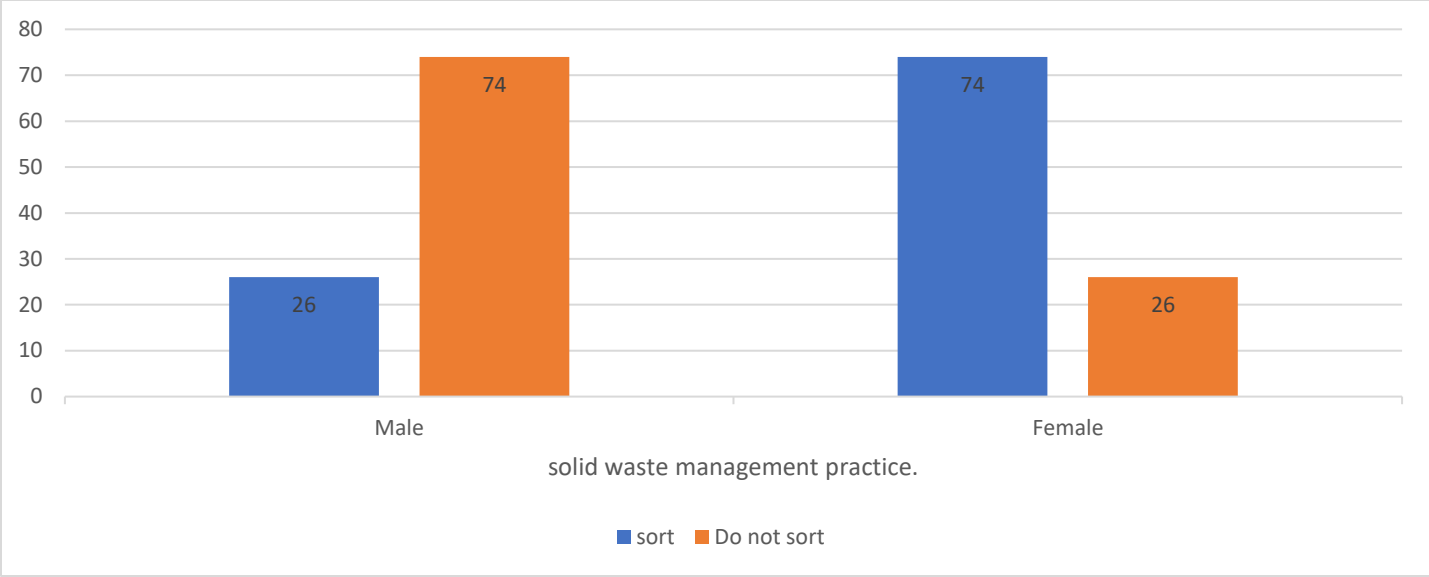
55% respondents were female compared to 45% who were male (figure 4.1).



**Figure 4. 1. Distribution of respondents according to gender.**

##### 4.1.2. Solid waste management through sorting according to gender.

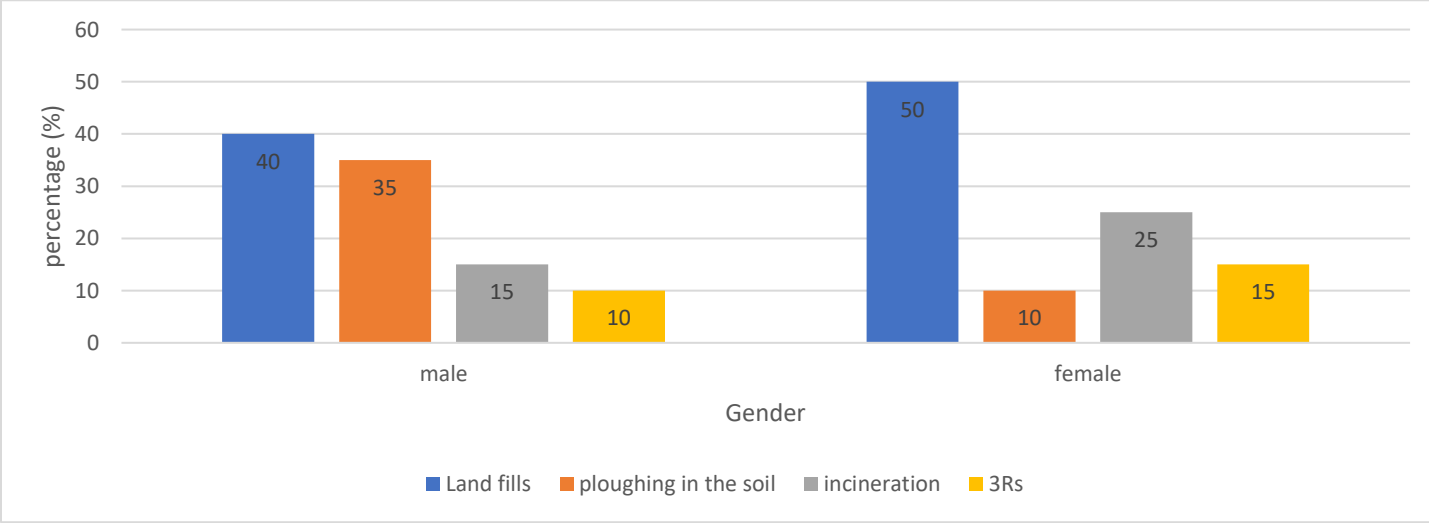
74% of the male respondents did not sort solid waste while 26% did sort solid waste compared to 74% female respondents who sort solid waste while 26% did not sort. (Figure 4.2).



**Figure 4. 2. Composition of waste sorting according to gender.**

**4.1.3. Methods of waste disposal according to gender.**

35% among male respondents disposed their solid waste by ploughing in the soil compared to 10% female respondents (Figure 4.3.).



**Figure 4. 3. Methods of waste disposal according to gender.**

But 15% of female respondents disposed solid waste through 3Rs while that for male respondents was 10%.

#### 4.1.4. Method of waste collection according to gender.

40% among male respondents used containers to collect their solid waste compared to 80% among female respondents. (Figure 4.4). Appendix 2

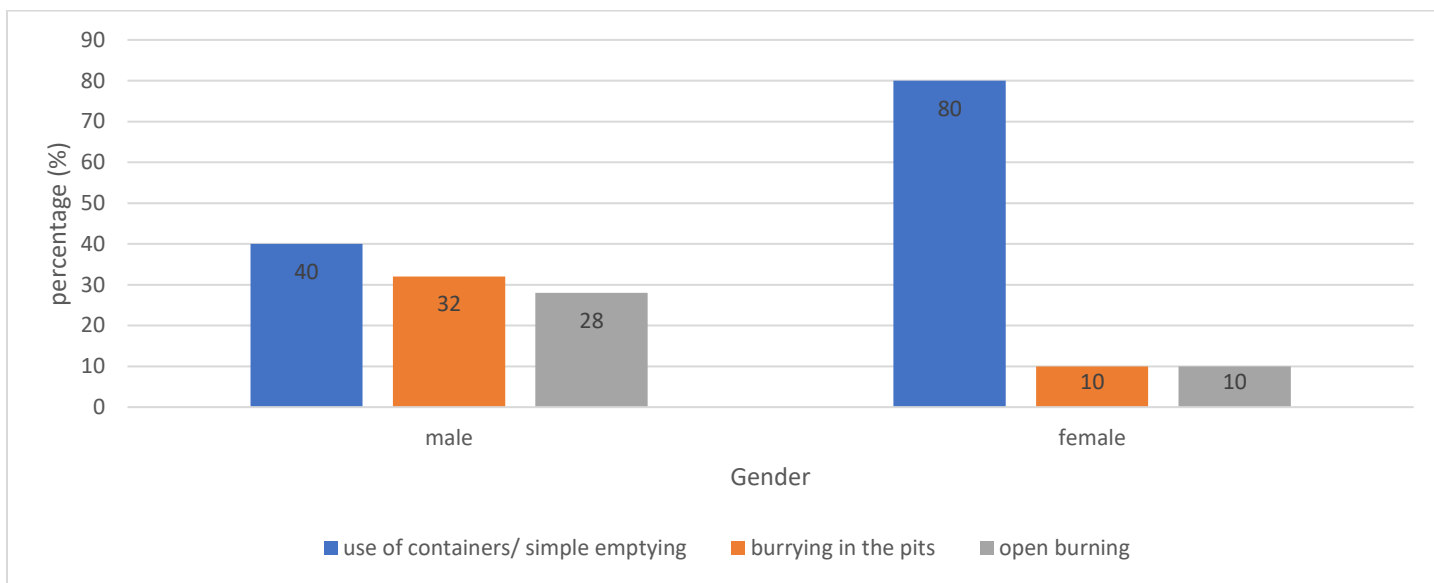
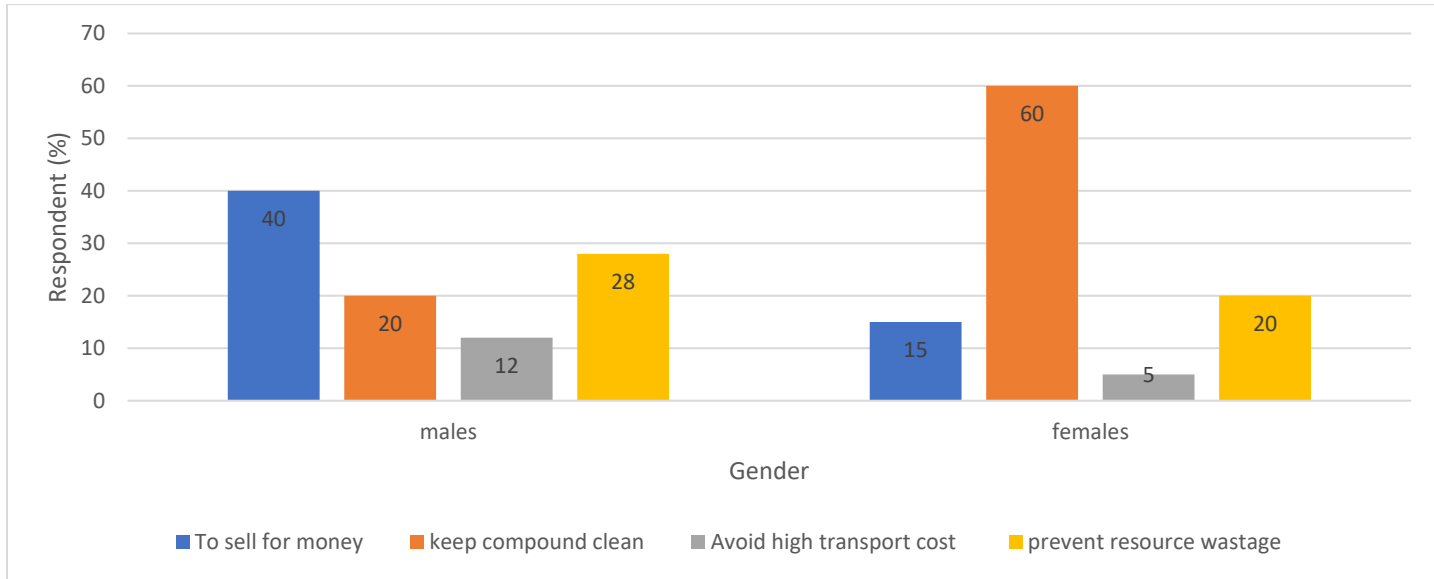


Figure 4. 4. Waste collection methods used according to gender.

## 4.2. Reasons for solid waste management.

### 4.2.1. Reasons for sorting solid waste according to gender.

60% respondents among female respondents sorted their waste to keep compound clean compared to 40% respondents among male respondents who sorted their solid waste to sell for money. (figure 4.5).

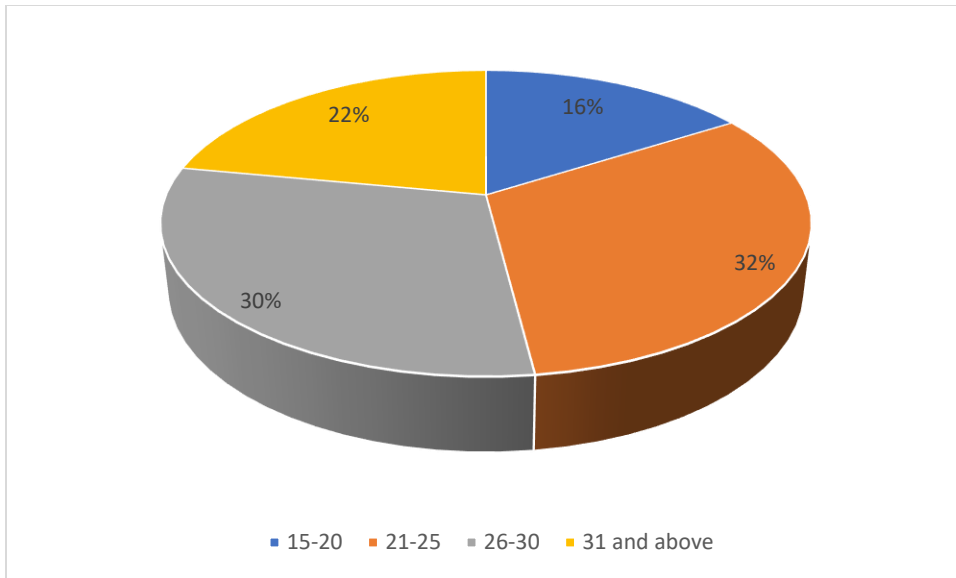


**Figure 4. 5. Reasons for sorting waste according to gender.**

But 12% among male respondents and 5% among female respondents do sort their waste in order to avoid high transport cost of transporting solid waste to the landfills.

### **4.3. Composition of respondents by age group.**

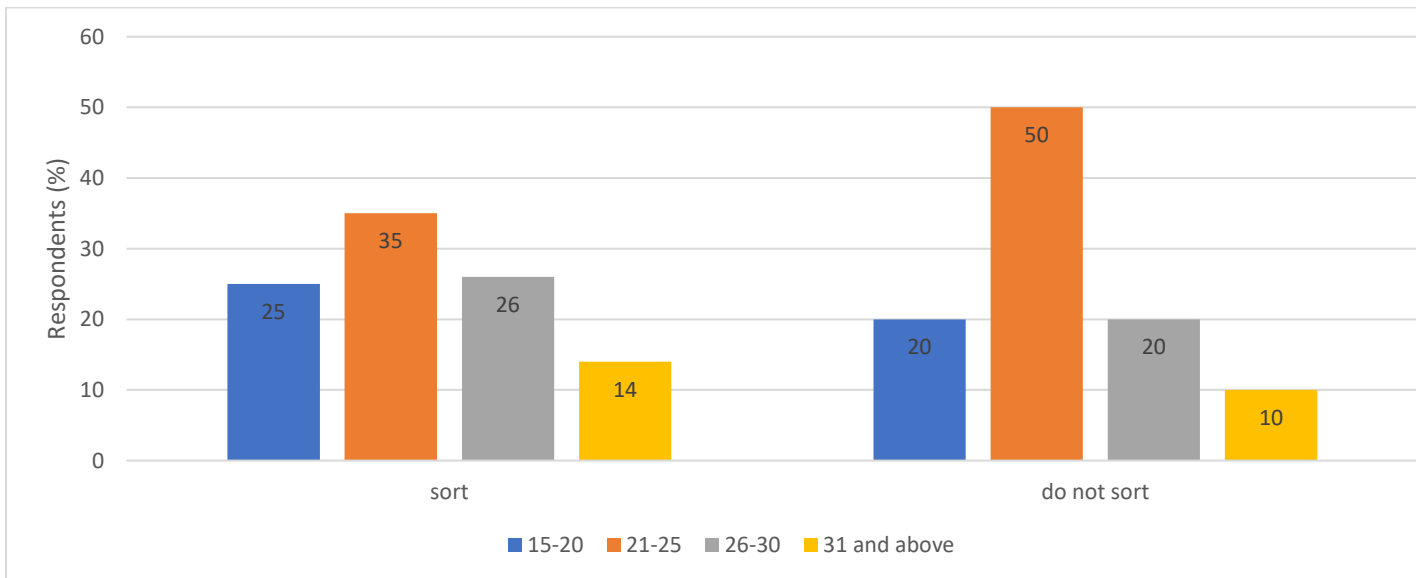
32% and 30% of the respondents ‘age ranged between 21-25 and 26-30 respectively compared to 22% and 16% who ranged between 31 and above and 15-20 respectively (figure 4.6).



**Figure 4. 6. Composition of respondents by age group.**

**4.3.1. Solid waste management practice through sorting by age group.**

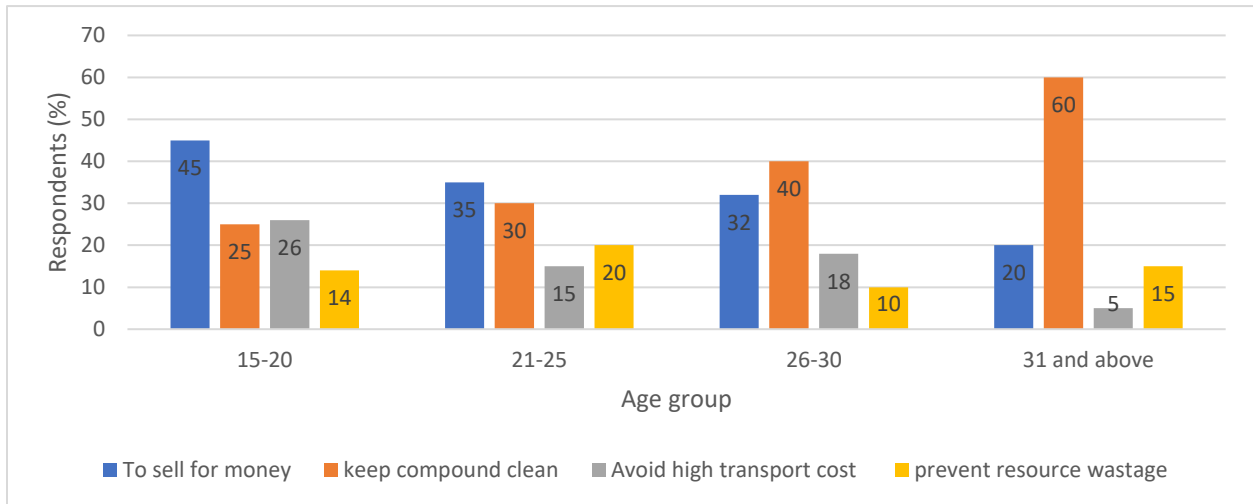
50% respondents among age range between 21-25 do not sort their solid waste compared to 35% of the respondents with the same age range who sort their solid waste. (Figure 4.7).



**Figure 4. 7. Managing waste through sorting by age group.**

#### 4.3.2. Reason for sorting solid waste according to age group.

45% and 35% of the respondents in the age range of 15 -20 and 21-25 respectively sorted their solid wastes to sell for money contrasted to 40% and 60% of the respondents in the age range of 26-30 and above 31 respectively who sorted their solid waste to keep the compound clean. (Figure 4.8).

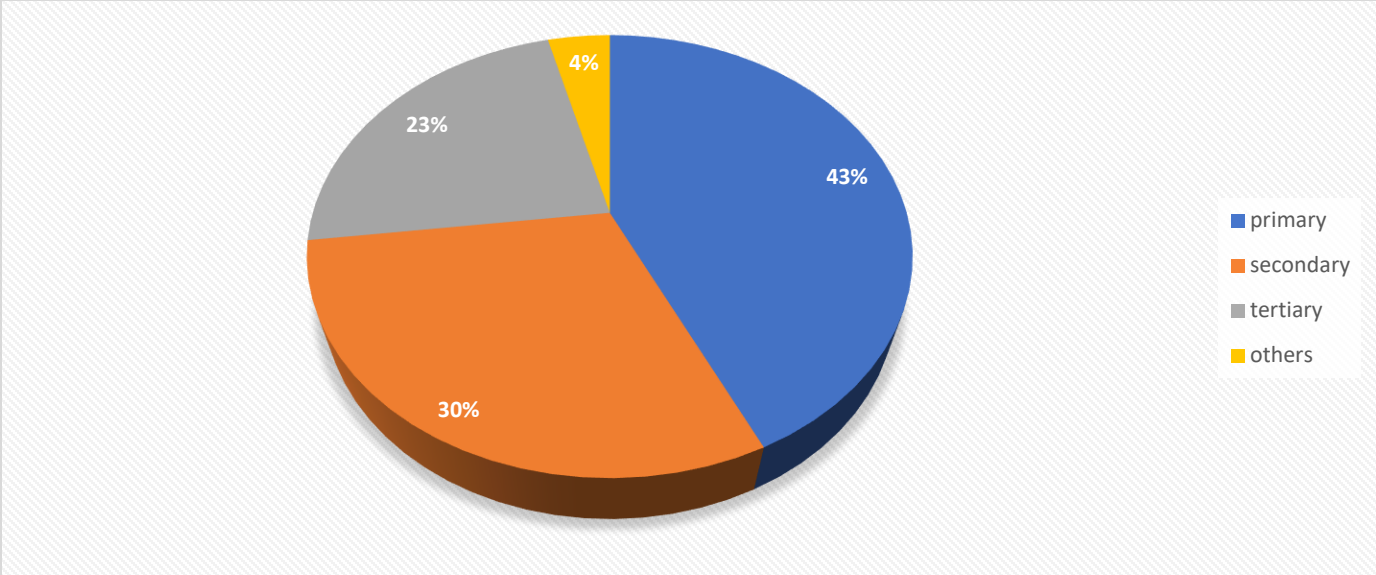


**Figure 4. 8. Reasons for sorting solid waste according to age group.**

#### 4.4. Composition of respondents according to education qualification.

43% and 30% respondents among the respondents had primary and secondary education qualification respectively compared to 4% respondents who had non- formal education. (figure 4.9).

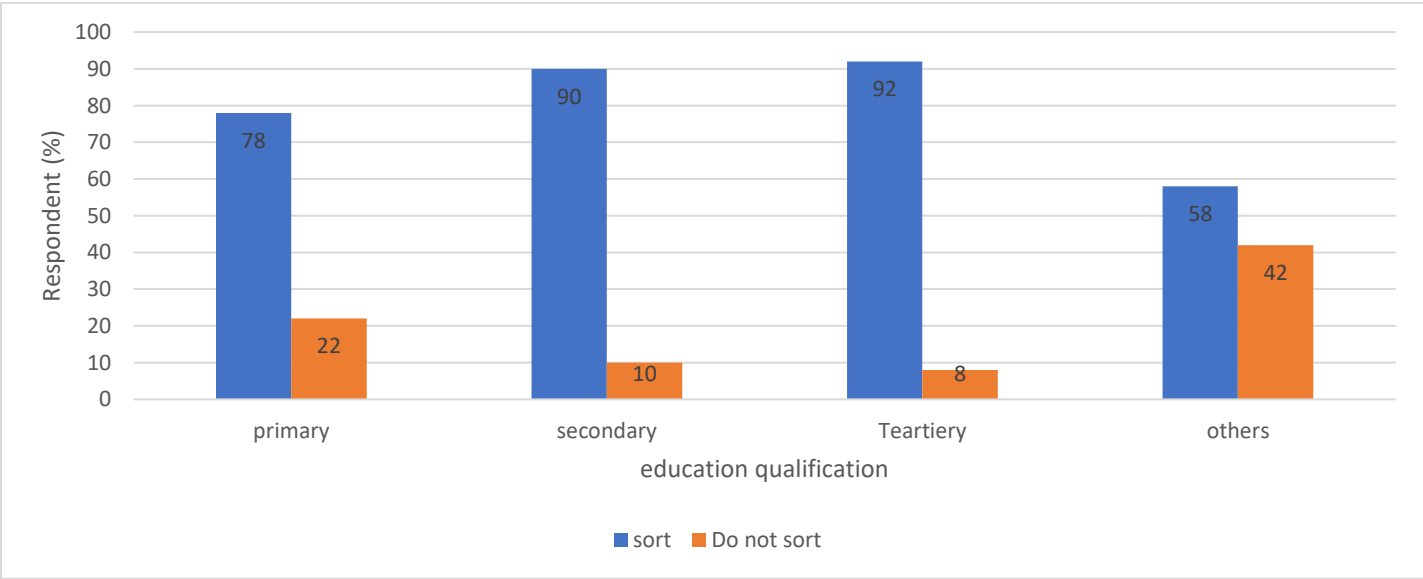




**Figure 4. 9. Composition of respondents according to level of education.**

**4.4.1. Solid waste management through sorting according to education qualification.**

78%, 90% and 92% of respondents with primary, secondary and tertiary qualifications sort their solid waste compared to 22%,10% and 8% respondents with primary, secondary and tertiary qualification who do not sort their solid waste respectively. (figure 4.10).

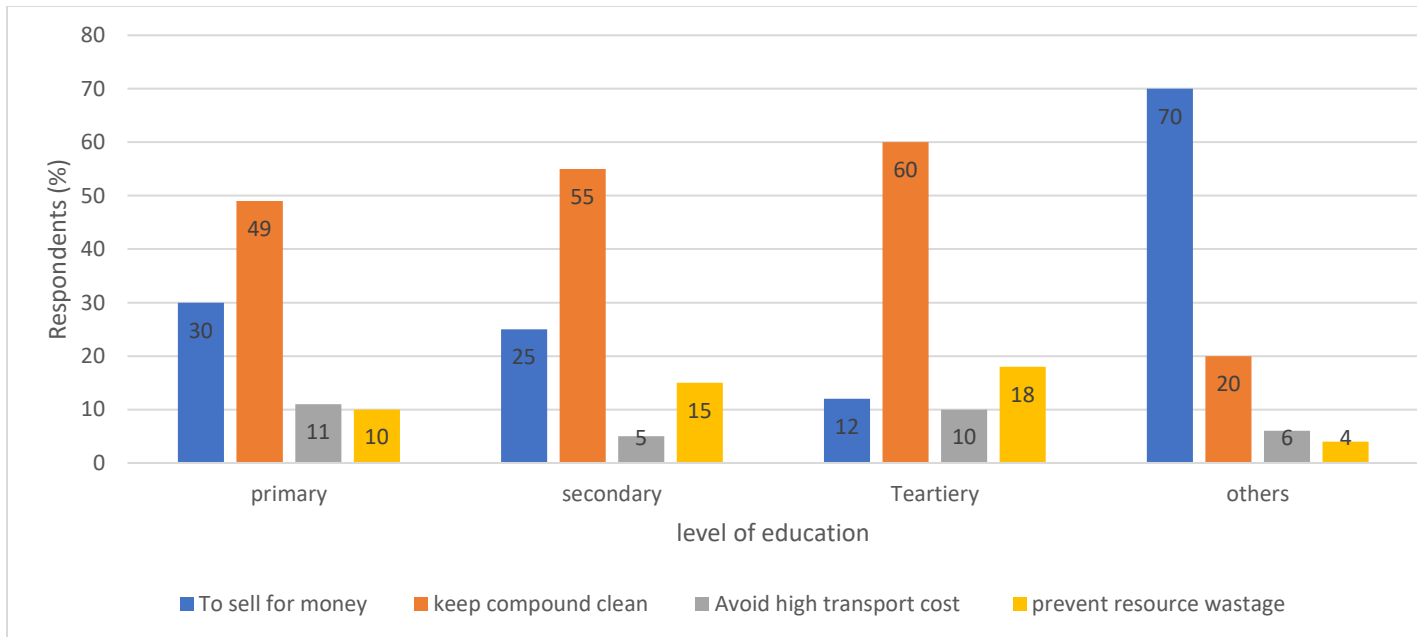


**Figure 4. 10. Managing waste through sorting according to level of education.**

But 42% respondents with non-formal education do not sort their solid waste compared to 58% who sort solid waste.

**4.4.2. Reason for sorting solid waste according to education qualification.**

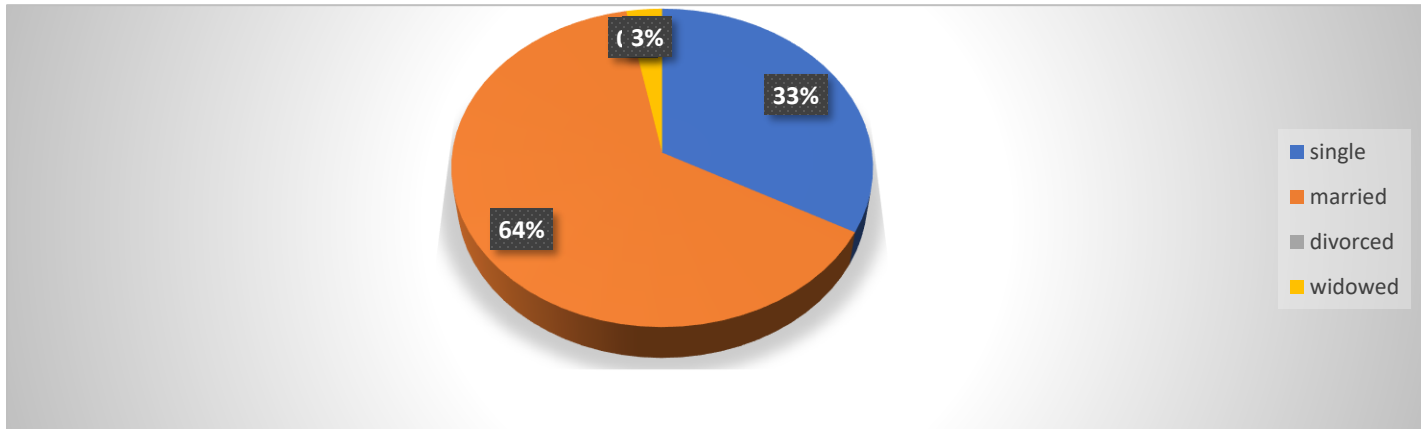
60% and 55% of the respondents with tertiary and secondary qualification respectively sorted their solid wastes to keep compound clean compared to 30% and 70% of the respondents with primary qualification and non-formal education respectively who sorted their solid waste to sell for money. (Figure 4.11).



**Figure 4. 11. Reasons for sorting waste according to level of education.**

#### 4.5. Distribution of respondent by marital status.

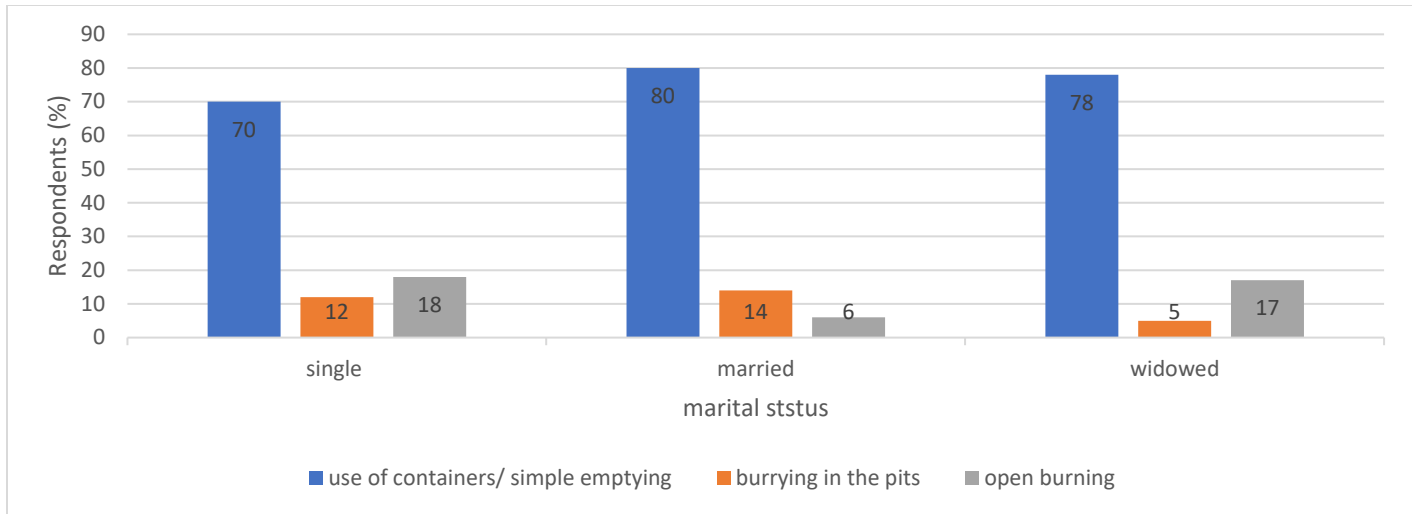
64% and 33% respondents are married and single respectively compared to 3% respondents who are widowers. (figure 4.12).



**Figure 4. 12. Distribution of respondents by marital status.**

##### 4.5.1. Method of solid waste collection by marital status.

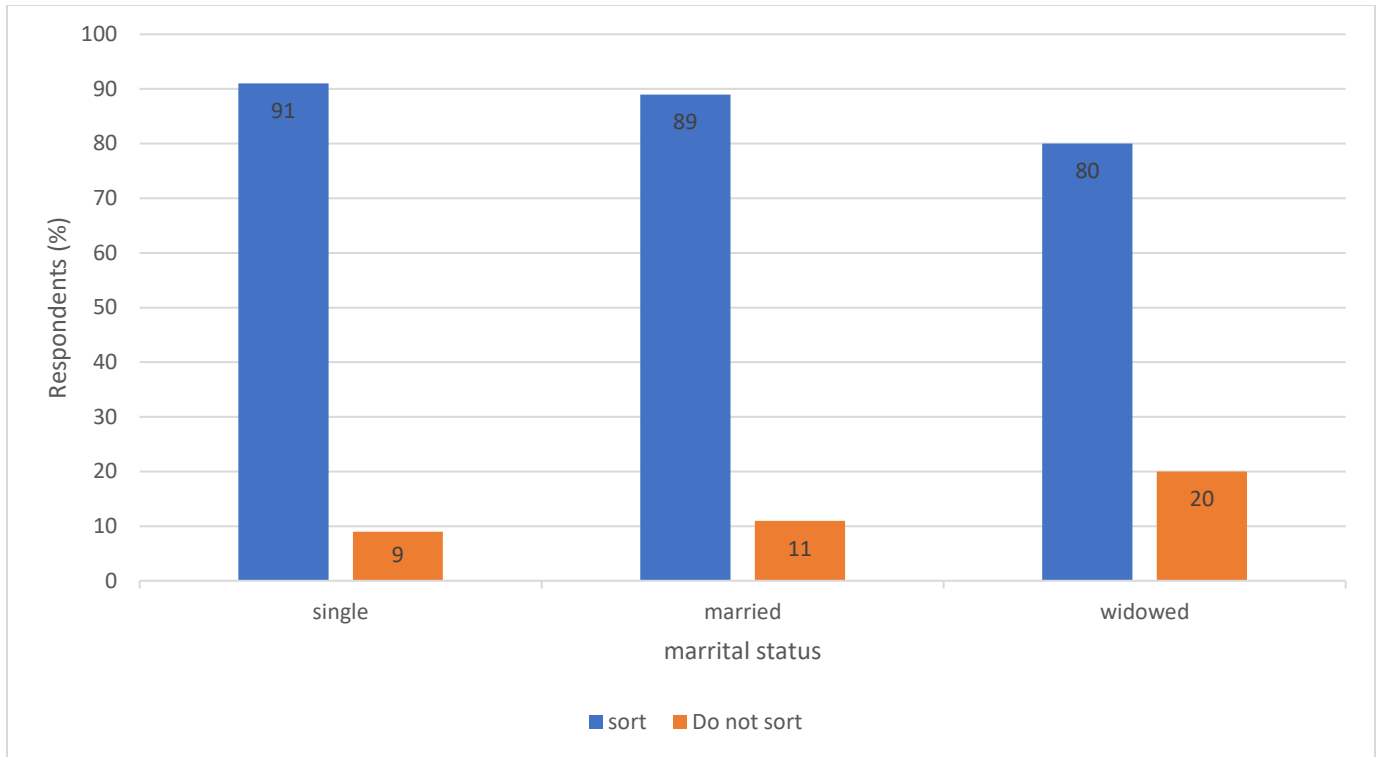
80%,78% and 70% among the married, widowed and single respondents use containers methods of solid waste collection respectively compared to 12%,14% and 5% respondents among THE single, married and widowed respectively who collect their solid waste by burying solid waste in to the pits. (Figure 4.13).



**Figure 4. 13. Methods used for collecting waste by marital status.**

**4.5.2. Solid waste management through sorting according to marital status.**

91%, 89% and 80% single, married and widowed respondents respectively sort their solid waste compared to 20%, 11% and 9% widowed, married and single respondents respectively who do not sort the solid waste. (Figure 4.14)

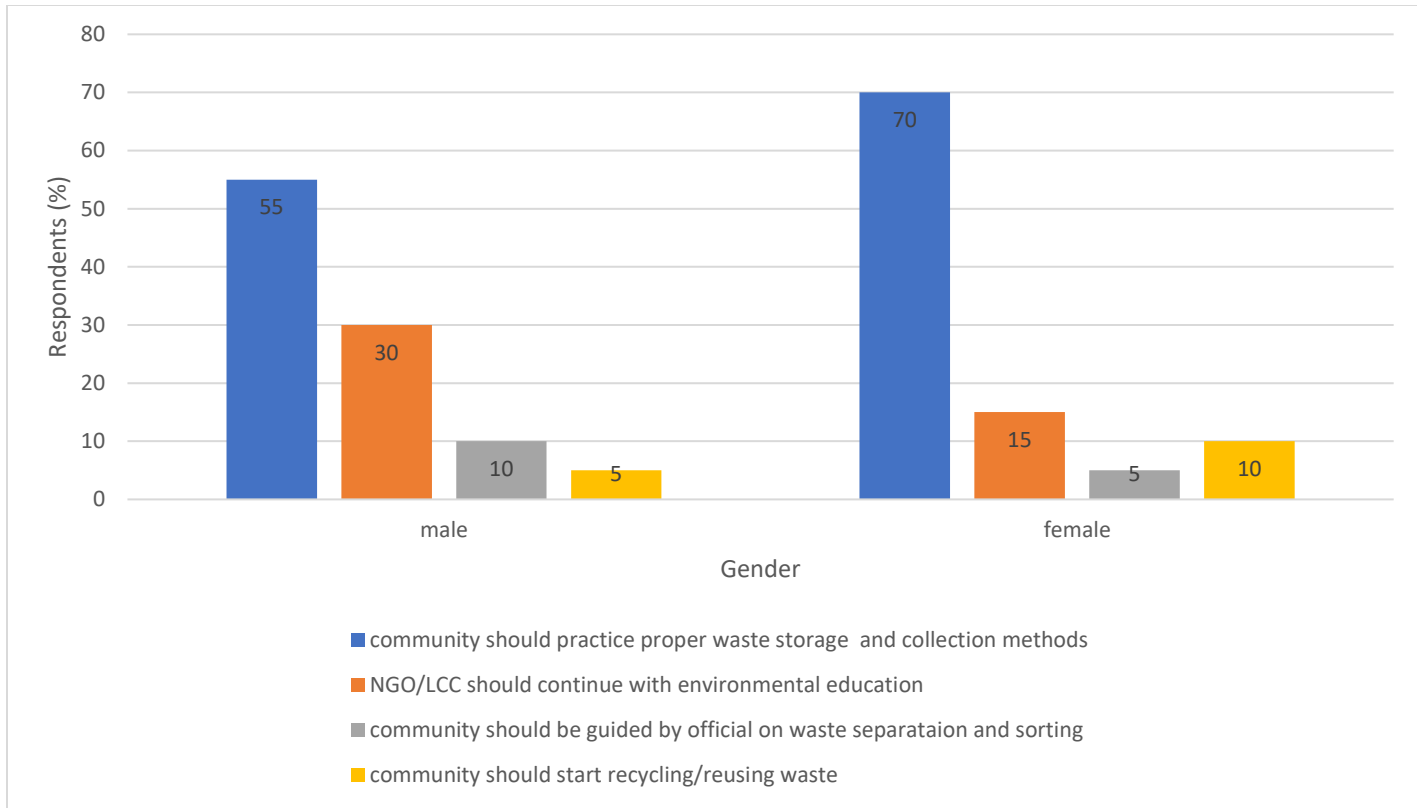


**Figure 4. 14. Managing waste through sorting according to marital status.**

#### **4.6. Views of the community on solid waste management.**

##### **4.6.1. Views of the respondents on solid waste management according to gender.**

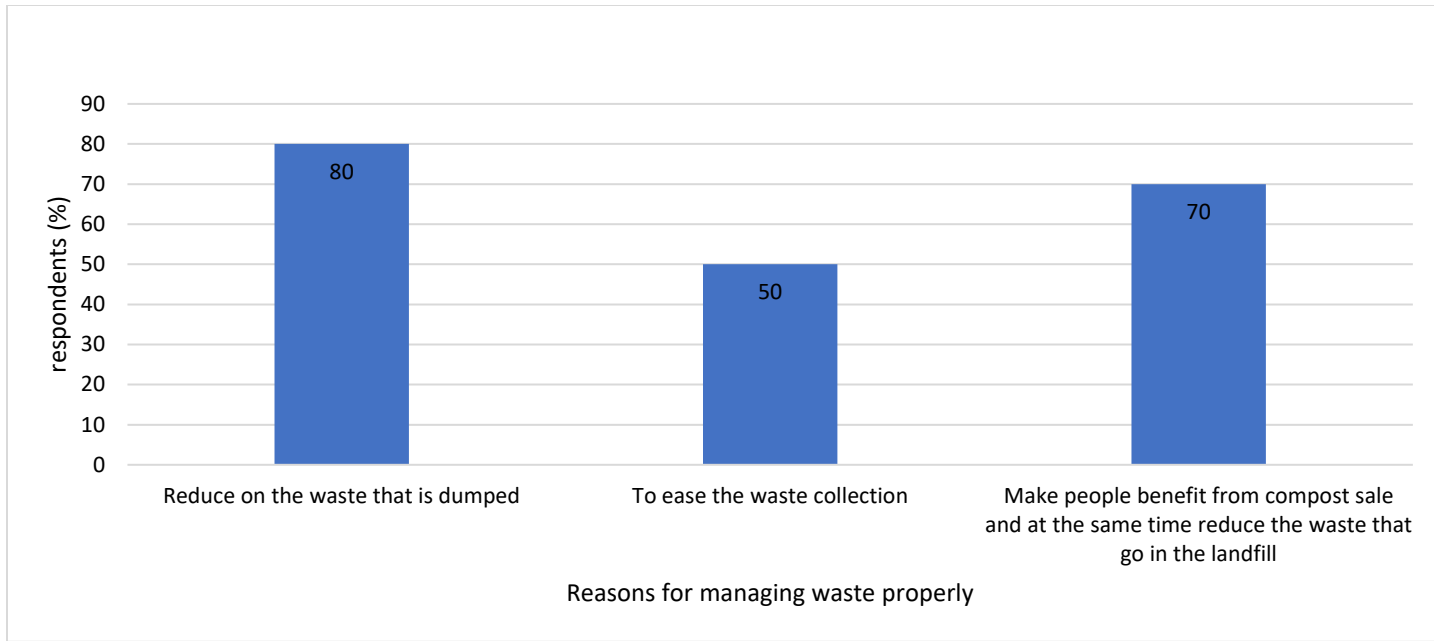
70% and 55% respondent among female and male respondents respectively said that community should adopt proper waste storage and collection methods compared to 5% and 10% respondents among the male and female respondents respectively who said that community should start practicing recycling and reusing of solid waste if they are to properly manage their waste very well. (Figure 4.14).



**Figure 4. 15. Views of the respondents on solid waste management according to gender.**

**4.6.2. Reason for the community participation in proper solid waste management.**

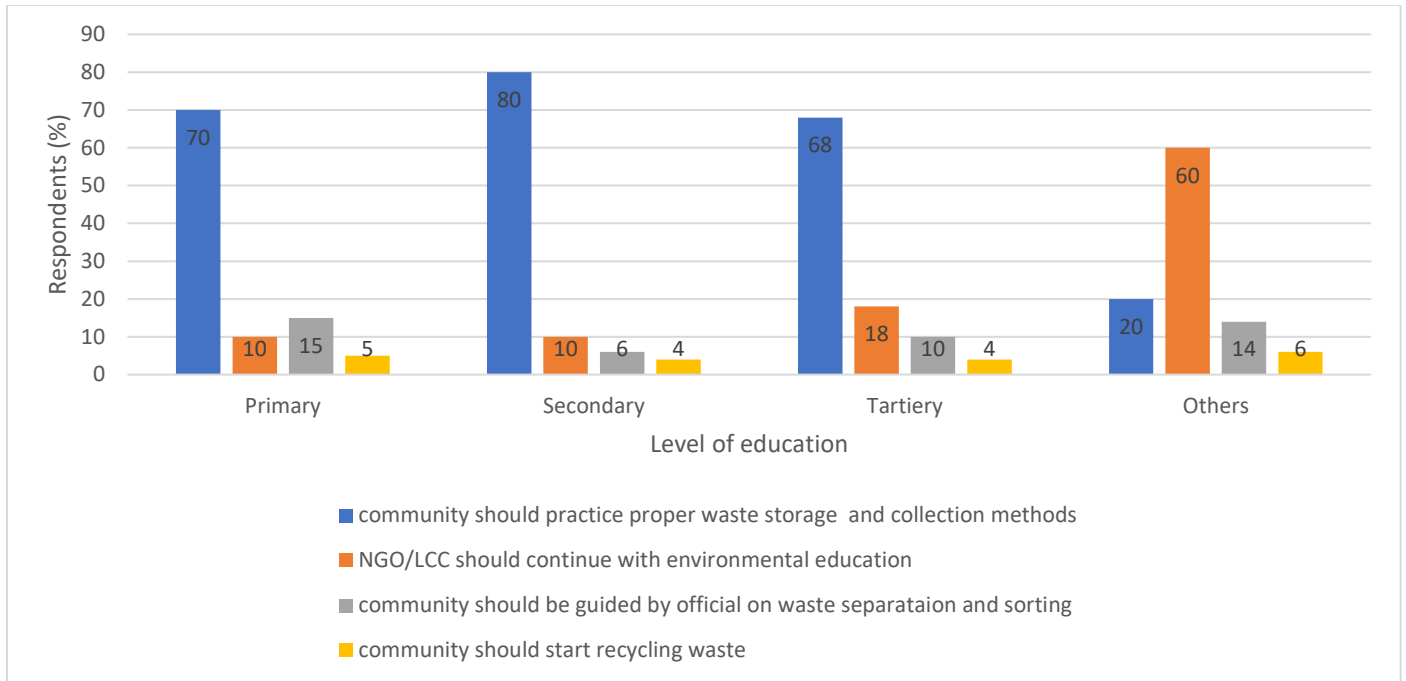
80% and 70% of the respondents reported that community should participate in proper solid waste management in order to reduce on the waste that goes in to the landfill and to reduce on the waste that is dumped compared to 50% respondents who reported that participation in proper solid waste management will ease solid waste collection. (Figure 4.15).



**Figure 4. 16. Comparison of the reasons for the Community participation in proper solid waste management.**

**4.6.3. Views of the respondents on solid waste management according to education qualification.**

70%, 80% and 68% of the respondents who attained highest level of education as primary, secondary and tertiary respectively said community should practice proper solid waste storage and collection methods compared to 15%, 10% and 6% of the respondents with primary, secondary and tertiary qualifications respectively who said community should be further guided by official on solid waste separation and sorting (Figure 4.16).

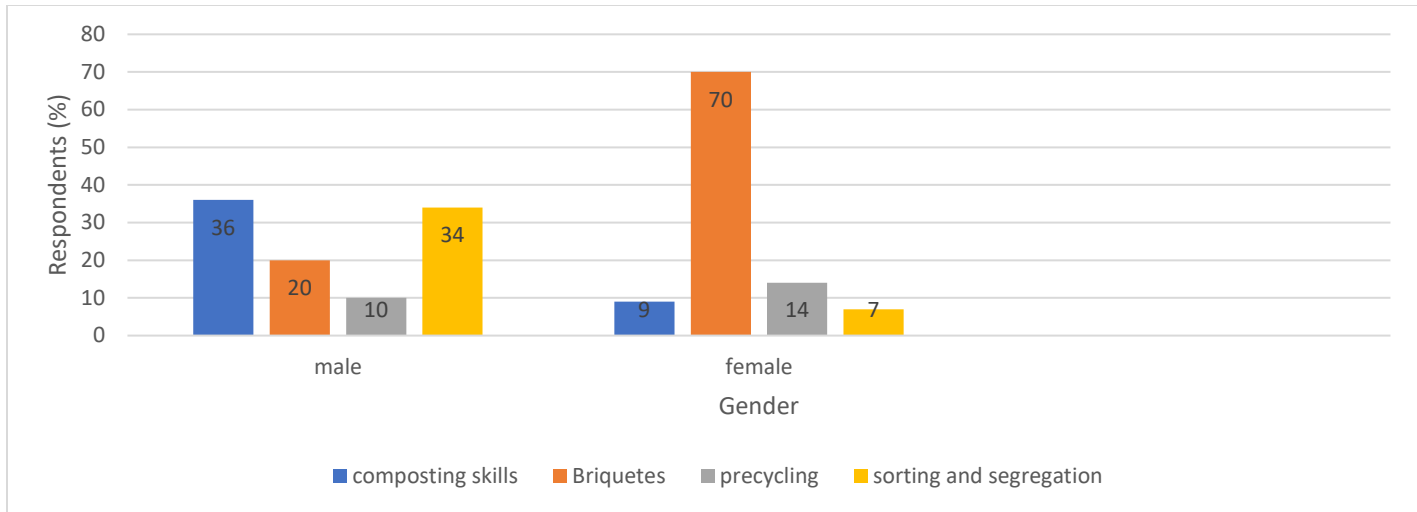


**Figure 4. 17. Views of respondents on managing solid waste according to education qualification.**

#### **4.7. Skills used for managing solid waste according to gender.**

36% and 34% among male respondents applied composting and sorting skills respectively while 70% of the female respondents said applied briquette making skills in managing solid waste (Figure 4.17). and appendix 2

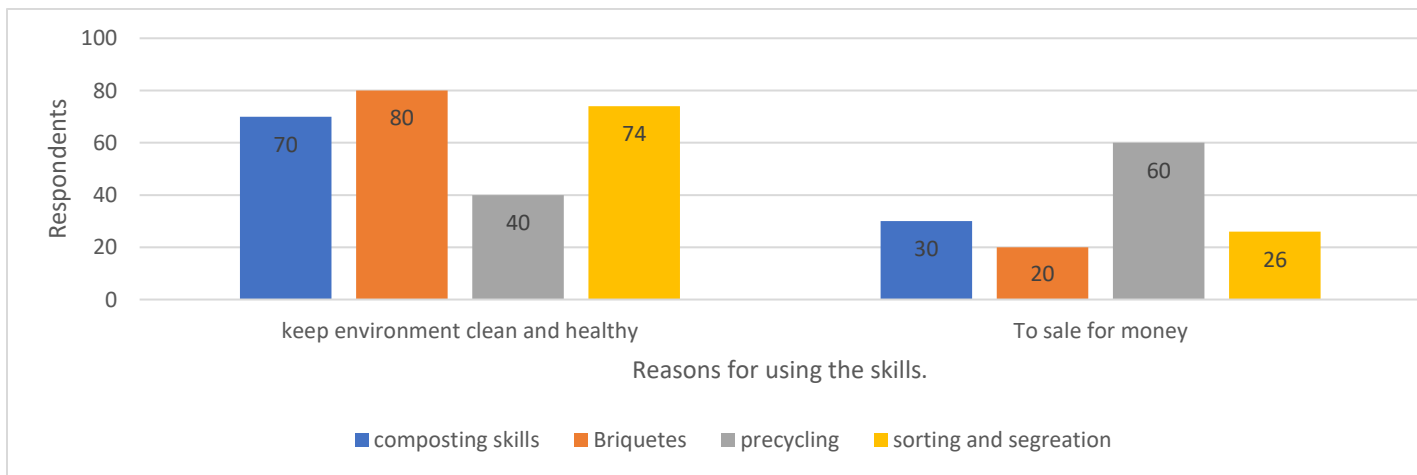




**Figure 4. 18. Skills used to manage solid waste according to gender.**

**4.7.1. Reasons for using different skills in managing solid waste.**

80% and 74% of the respondents use briquets and sorting skills respectively to keep the environment clean while 30% and 60% of the respondents do use composting and precycling skills respectively to get some waste for sale. (Figure 4.18).



**Figure 4. 19. Reasons for using the different skills in waste management.**

## CHAPTER FIVE

### 5.0. DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS.

#### 5.1. Discussion of results.

##### 5.1.1. Solid waste management through sorting.

Solid waste in Lira City is managed through sorting where people sort their waste before disposal findings revealed that women respondents do sort waste more than male. This is in agreement with Mabilisi (Mabilisi, 2014) which describe source segregation as separating 'useful' waste materials from the waste stream right after the waste has been generated. Waste is segregated either by recyclability or degradability and waste is sorted in order to get something useful from it.

##### 5.1.2. Reason for sorting solid waste.

The community do sort of solid waste and findings revealed that it is mainly carried out by female respondents compared to male counterpart. The study found out that female respondents mainly carry out waste sorting in order to keep the compound clean and the male that do sort waste do it with intention to get some money from the sale of waste. This is in agreement with Otitoju (Mabilisi, 2014) which explain sorting of waste to be useful to the environment if the intention is to keep compound clean and it can also be used to earn a living through selling of the sorted useful materials that may be got from the waste after segregation.

The findings are also in agreement with Otitoju (2023) who observes that people who are aged mind about the clean environment unlike the young people who priorities money to clean environment.

The study also found that the respondents with high level of formal education that is secondary, tertiary certificates holders do sort their solid waste because they want to keep the environment clean and those with low level of formal education do sort waste in order to sell for money. This is in agreement with Tilbury (mabilisi, 1990) who noted that as a result of education, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions.

### **5.1.3. Solid waste disposal.**

Male respondents that live in the community of Bar Ogole disposed their solid waste by ploughing in to the soil and the great percentage of female respondents disposed the waste in the controlled landfills. This finding is in contrary with Antwi (Antwi, 2020) who found out that a significant portion, around 30% to 40%, of the waste collected or generated was often openly dumped or disposed of in uncontrolled landfills from different places, causing environmental pollution and health hazards (Antwi, 2020). Deposal of waste is majorly done in the landfills and respondents are disposing their waste in the controlled landfills. Though some individuals in the community are still using open dumping methods, dumping the waste along the water channels and this is releveled in as the village Wii- Gweng. The female respondents that have adopted the incineration method of waste disposal this helps them to keep a healthy environment and this is done because of inadequate environmental education received by the inhabitant in that area (pers. comm). This is in agreement with Charles (Antwi, 2020) which notes solid waste to be the serious issues and different people to be using different methods that suits their level to manage it.

#### **5.1.4. Methods of solid waste collection.**

Findings indicated that both female and male use containers such as buckets, sacks to collect their waste. This is in agreement with Mbalisi (2023) who argues that the method is the most effective and it involves community collecting their waste in the sacks, bags, containers and taking straight away to the nearby collection station after sorting for the trucks to pick them and take to the dumping place/landfills this is common among female compared to male.

#### **5.1.5. Views of the community on solid waste management**

The study found that the respondent in the community of Bar -Ogole Ward those who attained high level of formal education that is secondary and tertiary said their fellow other community members should adopt and start practicing proper solid waste management such as use of containers method of waste collection, making compost, waste sorting and segregation. This is in agreement with Mbalisi (mabilisi, 1990) who noted that education will positively influence people's attitude to proper solid waste management.

#### **5.1.6. Reasons for proper waste management.**

The study found out that the respondents in the community of Bar- Ogole ward reported that the community should be engaged in proper solid waste management in order to reduce on the amount of solid waste that goes in to the landfill since this will help in preventing the spread of diseases carried by pathogens and pest that may arise as a result of excess dumping of waste. This is also in agreement with assertion by Mbalis (2023) that note the proper solid waste management to be

the pillars of preventing the member from certain disease that cause as a result of living in a dirty environment full of rotten discarded solid waste.

According to Mbalisi (mabilisi, 1990) dumping of waste could be done in proper way such as through using incineration methods, digging the rubbish pits and this will reduce on the waste that goes in to the landfills and by doing this the environment will be kept clean and healthy.

#### **5.1.7. Skills used by community in managing solid waste.**

Composting skills were used among the male respondents in the community of Bar- Ogole ward while their female counter parts have the briquets making skills and they were making briquets from charcoal waste.

Composting initiatives were present in some areas, but the overall percentage of organic waste composted was relatively low this is because not everyone engaged in compost making and the skills varies.

#### **5.1.8. Reasons for using the skills in managing solid waste.**

Community participation in composting in management of organic solid waste was influenced by the need of the community members to keep the environment clean. The study also found that the respondents in the community making briquets were doing this purposely to sale for money. This finding is contradicting with Okot (2011) that highlights composting to be done in order to get the compost for sale for money and also the composting can be used to reduce the solid waste that goes in the landfill.

## **5.2. Conclusion and recommendations**

### **5.2.1. Conclusion**

Overall study findings revealed that people are using the container methods as the key method of collecting the solid waste and they are also so carrying out solid waste sorting and segregation this is done by the community of Bar-Ogole ward in order to keep the environment clean and health. Sorting is done by female though male also do sort the waste.

Members of the local community are also so doing solid waste disposal and the female do dispose solid waste are in the landfills and men were doing ploughing the solid waste in the soil all these was with intension to keep the compound clean.

The community members with high level of education that is secondary and tertiary said their fellow other community members should adopt and start practicing proper solid waste management such as use of containers method of waste collection, making compost, waste sorting and segregation. However, people with low level of formal education are advocating for further environmental education by the Lira City council authority and other NGOs.

Local community members participated in proper solid waste management through doing proper sorting, proper disposal, collecting solid waste using containers, dumping in the landfills. This was driven by the interest to reduce on the amount of solid waste that goes in to the landfill since this will help in preventing the spread of diseases carried by pathogens and pest

Local community do compost and have the composting skills and this mainly among the male respondents mean while female do make briquets and have the briquets making skills. The

community of Bar-Ogole use these skills in order to keep the compound clean and also to some extent to get waste for sale for money.

### **5.2.2. Recommendation.**

Men should sort and segregates solid waste. This will lead to improvement in the waste management and it will lead to further reduction in the solid wastes that goes in to the landfills and that is dumped.

Parents should be encouraged to take their children to school since they this will change the attitudes towards environmental management including development of solid waste management skills among teenagers like sorting solid waste storage and collection practices to keep clean environment.

More members of the community should be guided on how to make compost and earn from compost, briquets making if the amount of waste dumped is to reduce.

Government should make it compulsory for members to keep the environment clean by maintaining the waste. This should be through enforcement of laws.

The authority in Lira city should increase the number of collection points this is to enable the community to easily acess and drop their waste.

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## APPENDICES

Appendix 1. Research questionnaires.



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### FACULTY OF NATURAL RESOURCES AND ENVIRONMENTAL SCIENCES

#### DEPARTMENT OF NATURAL RESOURCES ECONOMICS

#### QUESTIONNAIRE

Dear respondent, I am koni Joshua with registration number BU/UG/2020/2439 A student of Busitema university pursuing Bachelor Degree of Science in Natural Resources Economics. As part of the course, I am carrying out Academic Research on **‘ASSEESING THE INFLUENCE OF ENVIRONMENTAL EDUCATION ON THE SOLID WASTE MANAGEMENT PRACTICES IN LIRA CITY WEST DIVISION-LIRA CITY.** please feel free to respond to the questions in this questionnaire and I assure you that information to be gathered here is confidential and for the academic purpose only.

#### INSTRUCTIONS

Please tick in the box where necessary

#### SECTION A

- 1) NAME..... (optional)
  - i) Ward/parish.....
2. Gender

i) Male  ii) Female

3) Age range

i) 15-20  ii) 21-25  iii) 26-30  iv) Above 31

4) Marital status

i) single  ii) Married  iii) Divorced  iv) other (specify).....

5) Education level (please specify the level you attained)

(i) Primary  (ii) secondary  (iii) tertiary  iv other specify.....

**6. occupation**

i) Civil servant  ii) industrial worker  iii) Business  iv) farming

v) Unemployed  vi) others(specify).....

**7. Residence**

a) Resident  b) non-resident

**Research question 1:** What are the reasons for methods of solid waste management practiced by residents of different social status in lira city west division?

A) What method of solid waste management do you use for the types of solid waste you mostly generate?

Source	Categories of solid wastes generated (tick)	Method for management (write code)
--------	---	------------------------------------

Household	<ol style="list-style-type: none"> <li>1. Organic (Food wastes, yard wastes, wood,</li> <li>2. Paper (cardboard,</li> <li>3. plastics,</li> <li>4. Textiles,</li> <li>5. leather,</li> <li>6. glass,</li> <li>7. metals,</li> <li>8. ashes,</li> <li>9. special wastes (e.g., demolished houses)</li> <li>10. Eelectronics,</li> <li>11. wasted tires</li> <li>12. household hazardous wastes (Batteries, oils)</li> </ol>	<div style="border: 1px solid black; height: 100%; width: 100%;"></div>
Industrial	<ol style="list-style-type: none"> <li>1. Waste water</li> <li>2. Ashes</li> <li>3. Scrap Metals</li> <li>4. Chemical waste</li> <li>5. timber and scrap lumber,</li> <li>6. oils</li> <li>7. tires</li> </ol>	<div style="border: 1px solid black; height: 100%; width: 100%;"></div>
Commercial	<ol style="list-style-type: none"> <li>1. retail packaging</li> <li>2. food wrapper</li> </ol>	<div style="border: 1px solid black; height: 100%; width: 100%;"></div>

	<ul style="list-style-type: none"> <li>3. papers</li> <li>4. card boxes</li> <li>5. dishes paper</li> <li>6. cans</li> <li>7. wood waste</li> <li>8. Brocken glasses</li> </ul>	
Agricultural	<ul style="list-style-type: none"> <li>1. Pesticide and Fertilizer Containers.</li> <li>2. Tree Trimmings</li> <li>3. animal carcasses,</li> <li>4. damaged feeders</li> <li>5. weeds.</li> </ul>	

<b>METHODS</b>	<b>CODES</b>	<b>METHODS</b>	<b>CODES</b>
Simple emptying/container	1	Land filling	5
Solid Waste Open Burning	2	Disposal by Ploughing into the fields	6
Dumping on the road side, water bodies (indiscriminate dumping)	3	3Rs technique (reduce, reuse & recycle)	7
Incineration method	4	Composting process	8

b) Reason for using the above methods of solid waste management

METHODS	CODES	REASONS for using the above methods (codes)
Simple emptying/container	1	
Solid Waste Open Burning	2	
Composting process	3	
Disposal by Ploughing into the fields	4	
dumping on the road side, water bodies	5	
Land filling	6	
Trench disposal (Burying my waste in the pit)	7	
Incineration method	8	
3Rs technique (reduce, reuse & recycle)	9	

**Research question 2.:** WHAT ARE THE REASONS FOR VIEWS OF THE COMMUNITY TOWARDS THE SOLID WASTE MANAGEMENT PRACTICES EXHIBITED IN THE CITY.



**Explain your views towards current solid waste practices in the city**

	<b>Views</b>	<b>REASONS</b>
1.	The community should practice proper waste storage by use of affordable waste bins e.g., bags, boxes etc. This helps in preventing the spread of diseases carried by pathogens and pest	
2.	The community should put in practice the knowledge about waste recycling that they in order to reduce on the waste that is dumped	
3.	The community should be guided by officials on waste separation so as to get some money from the sale and also to ease the waste collection as well as to reduce the amount of waste that end up in the land fill.	
4.	NGO officials should educate us further about the use of organic waste since it is the mostly generated waste in the household in order to make people benefit from the compost sale and save our environment	
5.	The community should implement what they have learnt about making compost since they have been guided by official.	

6	Supporters such as NGO, LCC should see waste management as a potential economic driver through recycling, waste-to-energy projects, and job creation	
7	LCC should encourage the community to do waste reduction i.e., turn waste materials into useful products	
8	The community should be made aware of the dangers of poor waste management such as indiscriminate dumping to the people's health and to the environment example indiscriminate dumping.	

Research question 3. WHAT ARE THE REASONS FOR DIFFERENT SKILLS USED IN MANAGING OF THE DIFFERENT TYPES OF SOLID WASTE GENERATED IN LIRA CITY BY THE COMMUNITY

	SKILLS USED IN MANAGING SOLID WASTE.	Tick	Why do you do that way?
1.	Waste Sorting and Segregation.		
2.	Composting Skills:		

3.	Waste Reduction Strategies:		
4.	I burry my polyethene bags such as caveras in the pits.		
5.	Making briquets out of charcoal waste.		
6	Effective Waste Storage:  Knowing how to store waste securely to prevent pests, odors, and littering		

THANKS, YOU FOR YOUR KIND RESPONSE.

APPENIX 2



A truck for picking waste from the collection point in Wii -Gweng cell-barogole ward



Solid waste opens burning method.  
Source: Barogole ward wii-Gweng cell



Simple emptying method





Charcoal waste used for making briquets.



Open burning method





Looking at the type of waste dumped for open burning whether it is sorted