

THE LEGAL FRAMEWORK FOR WASTE MANAGEMENT IN UGANDA

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DECLARATION

I, TWINOMUJUNI ARESMAS undersigned declare that this dissertation entitled the legal framework for waste management in Uganda is my own original compilation and has never been presented to any organization or institution of higher learning as a paper or for any academic award.

SIGN..........DATE.....22/10/2019.....

APPROVAL

I the undersigned supervisor here by acknowledge that this research is adequate for the award of Bachelor of Law of Kampala International University.

SUPERVISOR DR. TAJUDEEN SANNI.

Signature.....

Date.....

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My sincere gratitude goes to the almighty God for his endless mercies. A big thank you goes to the entire staff of the School of Law and my lovely supervisor for unending support and guidance, may Allah reward you with deepest heart desires

DEDICATION

Special thanks goes to my daughter Prossie and her Mom Patience for their immense and restless technical support and guidance in the development of this research report without which it could not have been a reality. I also dedicate this work to my parents especially my father .Mr., my mother Mrs.my brothers and my sisters ,and.

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CHAPTER ONE

1.1 BACKGROUND OF THE STUDY

Poor waste management is not one man's country problem but rather it is dominantly becoming a sounding problem in many cities of the world. For instances, according to the 1999 state of the Environment Report of South Africa¹, the country produces over 42 million m³ of solid waste every year. This is about 0.7kg per person per day, which is more typical of developed countries than a. developing country². In addition, 5 million m³ of hazardous waste is generated every year³. Every day 2.6 million of domestic and commercial waste water is processed at treatment works. The last figure does not include agricultural and industrial waste, which are the largest sources of waste⁴.

In Uganda like many other developing countries, typically one to two thirds of the waste generated is not collected⁵. As a result the uncollected waste, which is often also mixed human and animal excreta is dumped indiscriminately in the streets wards and in drains. Contributing to flooding, breeding of insect and rodent vectors and the spread of diseases such as cholera. Most researchers, have linked waste generation directly to the size of population and the various activities undertaken by different categories of the population including large scale industries, small scale industries, trading/ businesses, municipal, farming, household, schools and hospital among others. Hence, it clearly means that waste generation will increase with increasing population growth⁶. In Kampala alone, waste generation estimations have been rated at 0.2metric tons per person annually on average⁷. 'Therefore, considering an urban population of 3.7 million people that is; 13.4% of the total population⁸, it means that approximately 740000 metric tons of solid waste are generated in urban area per year. Of this, only 41 % solid waste generated is disposed of properly⁹. The remaining 59% is left uncollected thereby ending up

¹ DEAT, 1999

² By comparison the figure in the UK is 0.73kg, 0.87kg in Singapore and 0.3kg in Nepal

³ DEAT, 1999

⁴ Ibid

⁵ Zerbock, 2003

⁶ Ibid

⁷ Ntategize et al., 2001

⁸ Uganda population secretary, 2007

⁹ UNDP, 2005

dumped in drainage, and sanitary drainage channels, natural water courses, manholes, undeveloped plots and road sides among other unfit places¹⁰.

Poverty Reduction Plan (PRAP) recognizes that waste management is almost non-existent in Uganda. It denotes that for instance in Kampala, refuse is collected from only 20% of the population and only half of it is disposed in a proper way with the rest being dumped indiscriminately¹¹. Furthermore, little attention has been given to waste water disposal and storm drainage. Drainage is poor and limited to major roads and pathways. Most local governments and urban agencies have, time and again, identified solid waste as a major problem and this has been attributed to poor institutional arrangements, poor technologies used and lack of the capacity to handle wastes. This has reached proportions requiring drastic measures. We can observe three key trends with respect to waste- increase in sheer volume of waste generated by local and urban residents; change in the quality or make up of waste generated; and the disposal method of waste collected, by land- fill, incineration among others.

A deteriorating urban environment is the enemy of sustainable development. Protecting the environment is not an alternative to economic growth it is a precondition of efficient economic development¹². Solid waste management is one of the major environmental problems facing city municipalities today. In Kampala City, like other urban centers in Uganda, and in most other developing countries, this important service is based on the local governments centralized collection, transportation and disposal strategy. Currently this approach has proved to be inefficient due to the heavy financial requirements involved. There is an urgent need to provide for the safe disposal of the solid waste generated by urban residents and businesses. The increase in urban, economic and industrial activities, as well as the resultant population increase have led to an increase in the quantity of solid waste generated. One method employed in collecting data included field trips to dump sites which are used by the Kampala City Council (KCC). Monitoring of collection points both in the Central Business District (CBD) and in residential areas was also used. Interviews were conducted on personnel, both in the City Engineering and Health Departments and on residents in high, medium and low density residential areas. The results of the study indicate that alternative means to waste disposal need to be developed with

¹⁰ NEMA, 2004

¹¹ PEAP, 2004/2005

¹² (UN 1992:25)

population growth and economic development in mind. The state of solid waste management in Kampala needs immediate attention if the urban environment is to be saved from further deterioration¹³.

Before the 1995 constitution of Uganda was enacted, there was no enough legal framework for the maintenance of the environment but Uganda rather depended on International Environmental law globally whose growing begun in the early 1920 with the creation of a number of conventions for the protection of useful birds to agriculture 1902, the treaty for conservation of fur seals Washington and the convention concerning the use of white lead in painting Geneva 1921. However, with time the number of treaties increased dramatically but the most significant development with regard to this law was the establishment of the United Nations which established various agencies to handle environmental issues such as the World Health Organization

1.2 PROBLEM STATEMENT

Although there is much effort, the laws that are in place to improve proper waste management, there is still persistent poor waste management in Uganda. Legal framework like the constitution of the republic of Uganda 1995, the National Environment Act no. 5 of 2019, the Local Government Act 1997 all have provisions for how all wastes shall be properly managed among other regulatory framework.

People mindless over the way wastes are managed can be said to be a result of the lack of understanding of the likely dangers of poor waste management and the institutions like local government have not played their part as well. More so to the above is the inadequacy proper institutional arrangements, inadequate technologies like modern trucks and the lack of the capacity by councils to handle the wastes generated¹⁴. The waste generated in towns in Uganda, is not well collected and even that which is collected is not sorted and there is no gazetted area to dispose of such collected wastes. Additionally, even the government development programs for environmental sustainability rarely put waste management aspects into consideration for instance the hospitals, public markets, learning institutions among others. To add on there is no

¹³ Jockey baker Nyakaana at Makerere university at pg.1

¹⁴ TENYA ET AL,2007: CBOs, private, municipal or public partnership for instance, studies indicate that each person in Kampala city produces 1kg of solid waste per day

appropriate technologies and practices for waste management and also the limited capacity among stakeholders¹⁵ addressing waste management issues. This state of affairs has far reaching effects on livelihoods and environment stands great health risks for instance, solid waste at informal disposal sites produces toxic gases and creates air pollution. This has led to increased incidences of diseases like cough, fever and diarrhea among others hence increasing public expenditure on drugs yet a properly managed waste is wealth¹⁶.

Wastes have got many opportunities for instance metallic containers can be used to make paraffin candles, toys, simple local measuring cans, wrapping paper and envelopes out of paper wastes and waste can be an alternative to generate fuel. A case in point is Kibuli Development Association which has resorted to using banana peelings to come up with charcoal briquettes and this has made house hold energy conserved¹⁷. This problem of poor waste management requires innovative solutions and one of the solutions could be a participatory approach where the local people are involved to define the problem and then propose the solutions. Therefore, the study will seek to explore the causes of poor waste management and propose solutions and recommendations to the problem at hand

1.3 THE PURPOSE OF THE STUDY

Waste management is becoming a major environmental dilemma. Previously it was understood as being low and urbanized problem in most cases, but the situation right now, especially in large cities such as Kampala cannot be overlooked anymore due to industrialization. The purpose of this study is an analysis of the legal framework on waste management in light of the poor waste management and propose possible solutions. And therefore the by the intention waste critically examine the waste management procedure and propose solutions of solving the problem.

¹⁵ Technocrats, extension agents, private sector such as BIN

¹⁵Zake et al 2008:6

¹⁵ E.A 2007

1.4 OBJECTIVES OF THE STUDY

To examine the legal frame work for waste management in Uganda

1.4.1 SPECIFIC OBJECTIVE

To examine the different forms of waste collection, transportation and disposal practices of waste management in Uganda

To examine the legal frame work for waste management in Uganda

To examine the institutional frame work on waste management in Uganda

1.5 RESEARCH QUESTIONS.

What are the different forms of waste collection, transportation and disposal practices of waste management in Uganda?

What is the legal frame work for waste management in Uganda?

What is the institutional frame work on waste management in Uganda?

1.6 SCOPE OF THE STUDY

This study helped identify the ways wastes can be managed in Uganda and remedies were developed. The study highlighted the effectiveness of the current waste management policies. As a result the necessary remedies were recommended and the study also drew lessons from the best practices elsewhere and suggested ways adopting them. The researcher reviewed documents, reports to be able illustrate whether the mechanisms adopted has reduced, remained the same or increased.

The study is majorly going to cover the major legal framework on waste management in the present Uganda legal system at the national and local government level.

1.7 SIGNIFICANCE OF THE STUDY

To a large extent waste management efficiency in Uganda depends on the way different actors understand the danger and the good of maintaining environment safe and their capacity but also the commitment of public and private sectors as well as the involvement and participation of the communities themselves in supporting the whole concept. It also depends on the useful information and lessons from current best practices in the provision of this important service. Such information and lessons can be obtained only through research and studies; hence this research can assist in the improvement and performance of waste management in the urban settlements and to identify opportunities for future strategic development in the field of waste management. Particularly, this study is useful to the different stakeholders including planners, administrators and private waste Collectors, and in one way or the other contributes to future policy interventions in waste management sector in Uganda.

1.8 RESEARCH METHODOLOGY

The research is purely doctrinal in nature. It is a review of the legal framework on waste management in Uganda. In addressing the research topic, the researcher will exclusively rely on the Constitution of Republic of Uganda (as amended), relevant Acts, and Statutes, policies, books, scholarly articles, reports and internet sources.

1.9 LITERATURE REVIEW

Below is a review of the relevant literature on waste management. In this section, the main purpose is to review issues related to waste management that have been investigated by other researchers, in order to gain more insights into the subject under the study and avoid duplications of efforts in this area: Most of the literature reviewed is from different sources like text books, websites, newspapers and journals.

In Uganda, the people have not taken any good steps in solid waste management practices like source decrease, reusing, recycling or properly disposing of the portion that cannot be reclaimed. Instead the public has for most part resorted to the blind eye attitude on wastes generating as much waste as possible unconscious of the implications for its collection and disposal¹⁸. The solid waste generated comprises of 73% organic waste; 5.3% paper; 1.7% saw dust; 1.6%

¹⁸ ERL.1990,KCC 1995 and NEMA 1996

plastics; 3.1% metals; 0.9% glass; 8% tree cuttings and 5.5% street debris¹⁹. Kampala city gives a good illustration of this problem. Since 1969, there has been a big increase in the volume of solid waste generated due to the rise in population. In 1969, 198 metric tons were generated every day and currently 800 tones (800,000kgs) is being generated according to the Kampala City Council²⁰.

In addition to the above, waste generation is directly proportional to population increase. Even though high/medium income earners are fewer than low income earners and their per capita waste generated by low income earners is more than double the quantities generated by high income earners. However, the daily and annual waste generation for low income earners is more than double that for high income earners. This could be attributed to accumulation among low income earners settlements due to inadequacies in waste collection services among others.

According to Rashid Magezi the Global Clean Services, business manager, the greatest challenges facing Uganda's high growing urban centers is the hazard of urban waste. He adds that, the amount of solid waste generated in urban centers in Uganda has been increasingly mainly as a result of the growing urban population, concentration of industries, consumptions habits of residents, inadequate finance and facilities to manage waste collection and disposal. Many Ugandans perceive waste collection as a luxury but not a necessity. The concept of collecting garbage is still new to most people, since you have to tell them a number of the times before they can ingest the idea. Magezi insists that garbage disposal in the urban areas is a real challenge compared to rural Uganda where waste is mostly dumped in open places, gardens and open pits. In addition waste in the rural areas is mostly organic²¹.

In South Africa, there have been waste disposal and impact controls or end of the pipe treatment²². But this focus has faced a number of challenges and these include: Lack of waste avoidance, minimization and cleaner production technology initiatives; Lack of regulatory initiatives to manage waste minimization; Few incentives for reducing waste; Industries not required to submit plans for waste disposal when applying to establish new enterprises; Inadequate resource recovery and a general lack of commitment to recycling; No legislation,

¹⁹Ntategezi et al 2001

²⁰ KCC report: 2008

²¹ The new vision 3rd April 2010

²² DEAT 2000

initiatives to manage waste minimization; Few incentives for reducing waste; Industries not required to submit plans for waste disposal when applying to establish new enterprises; Inadequate resource recovery and a general lack of commitment to recycling; No legislation, policy or waste management culture that promotes resource recovery or makes it financially viable; and Inadequate appropriate waste management methods and treatment technologies as associated with these policies also have a negative effect on human health. In addition to lack of variety of appropriate waste treatment methods, some of the consequences of previous waste management policies include; continued air and land pollution, the pollution of fresh and marine waters, resulting in the disruption of ecosystem processes, habitat destruction and species loss. The amount of waste produced also places increasing pressure on the country's landfills. Increasing amounts of land set aside for landfills could lead to habitat destruction and species loss. Just 13% of American waste is collected²³. Recycling is a resource recovery program goes beyond the globe's mineral supply by reducing the amount of virgin materials that need to be removed from the globe to meet the demand. Resource recovery saves energy, cause minimal pollution and land disruption, cuts waste disposal costs and extends the life of landfills by preventing waste from residing there. The percentage of paper that is being recycled in other nations sends a clear message to Americans: we are not doing enough. Americans only recycle 28% of the paper they use, although they lead the world in paper consumption and paper waste. France, Sweden, Switzerland and Finland recycle at least one-third of their paper expenditures. Japan, Mexico and the Netherlands are at a 44% rate, which is the highest in the world. The American federal government alone uses two percent of all paper products in the country, but half of the trash it throws away is paper²⁴. Greatly increased recycling in this country could be reached through several measures. Some analysts claim that 50% to 80% of the nation's natural resources could be recycled or reused by the year 2012. Some measures to achieve this include enacting a national bottle bill into law, burning disposable plastic items, requiring labels on products made with recyclable materials and the percentages used, using education and advertisements to discourage the throwaway mentality, requiring households to separate wastes for recycling (or offering financial incentives for doing so), and decreasing subsidies for virgin

²³ Source Anonymous 1992

²⁴ Miller 1990

material industries and providing subsidies for secondary-material industries and waste reduction programs.

It is continuously to note that high-income houses generate many wastes to low income households but accumulation is higher in low income areas compared to high income settlements due to availability of waste collection services²⁵. Therefore, they are a number of causes of poor waste management in Uganda and these include but not limited to; lack of dumping sites where to deposit the solid waste. This is because the issue of waste management is new in the country. It wasn't understood before. Currently in Kampala, the dumping is done by the K.C.C.A at its grounds a landfill made in 1996 after the former one at Lweza and Lubigis²⁶. Ignorance of the many about the need to dispose of these wastes well and how to dispose of them (the wastes) off. There is lack of enough literacy programs on wastes management which leaves most of the people backward on waste management. This is because of poor or no sensitization of the masses by the government and other organizations of Uganda, inefficient collection methods which is mainly due to lack of funds to provide the necessary machinery. In Uganda, machinery like the trucks that carry the waste from various areas have poor covering systems such that even the waste goes on leaking on the road while being transported and even there are few places with proper garbage containers or at times the names are over flooded when there are rain showers. Poor government attitude towards waste management. From citizens point of view is realized that very little money from the government is directed towards waste management. With most of it going towards industrialization. This leads to poor collecting equipment. Another cause is poverty that exists in Uganda, this undoubtedly leads to masses buying cheap non-biodegradable containers which are not easy to dispose of, and also substitutes like paper bags are not easily available to poor urban dwellers. Also the low price of these solid waste especially polythene bags which are very cheap as compared to other containers makes them very common, which makes their proper disposal very difficult. Lack of trained manpower/personnel to deal with garbage collecting machinery and to ensure the proper disposal of the solid waste for example door to door collectors in most advanced countries. Lack of recycling facilities in most parts of the country for instances most of the polythene bags used are not recycled by the manufacturing

²⁵ ERL 1990 KCC 1995, and NEMA 1996

²⁶ ERL 2008

industries and misallocation of funds and even embezzlement of the little funds allocated for such work.

CHAPTER TWO

2.1 DEFINITION OF WASTE

Waste is a human-made substance in a certain period and places which in its actual structure and state is not useful to the owner or is an output without an owner and purpose. In other words, Waste is anything that we no longer need. It is also commonly referred to as rubbish, trash, garbage, refuse, effluents and unwanted or unusable materials²⁷.

2.2 FORMS OF WASTE

It is important to understand that wastes take two forms that is; solid or liquid wastes. Solid wastes refer to particulars or materials which are no longer useful to their owners and which require to be removed. This means that they require to be disposed of. They are both organic! biodegradable for instance the waste generated which has no direct use and or no current market value or no use to the people, like animal and plant remains; it may be broken down by living organisms such as bacteria, protozoa and fungi. This form of waste occurs as green plant tissue waste, food remains, paper and animal waste. And non-organic non bio-degradable wastes, is that form of waste that cannot be broken down by living organisms, it includes metals, polyethylene, most plastics and rubber. Most non-biodegradable wastes are produced from manufacturing industries.

On the other hand, liquid waste refers to waste materials that contain full liquids. These include waste from industries, households, sewerage and leach ate from land fill or garbage heaps. This harmful to the water sources hence endangering both human beings who depend on such water sources and the aquatic life. It also destroys the soil and its level of productivity since some of these wastes like grease, paints will go down into the soils and the results affecting the soil formation²⁸.

2.3 WASTE MANAGEMENT

The term waste management has all issues and processes full with the generation, processing and disposal Off all categories of waste produced by human activities; it includes, therefore, the stages of production and minimization, collection, handling and transportation, reuse and

²⁷Zake J. 2007

²⁸ ENVIRONMENT PROTECTION AGENCY 2008

recycling and treatment and disposal of all such wastes²⁹. 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. Waste management is undertaken mainly to minimize the effect of wastes on resource loss and conservation, health, environment, costs and aesthetics³⁰.

Waste management is the process by which products and by-products generated by business and industry are collected, stored, transported, treated, disposed of, recycled or reused in an effort to reduce their effect on human health. Therefore, a properly managed waste; that is well collected and sorted recycled, treated, disposed of hygienically will promote a clean and safe environment. Waste management is practiced by small businesses when they collect and sort it, recycle, treat, dispose of their wastes or implement ways of reducing their waste³¹. Despite the fact that waste handling and transport varies from region to region, country to country, there are waste management concepts that are globally accepted and implemented these are the waste chain or the 3Rs (reduce, reuse and recycle), the extended producer responsibility (EPR) and the polluter pay principle.

2.4 THE REDUCE, REUSE, RECYCLE WASTE HIERARCHY

The Waste Hierarchy is the order of priority of actions to be taken to reduce the amount of waste generated, and to improve overall waste management processes and programs. The waste hierarchy consists of 3 R's as follows: Reduce; Reuse; Recycle. Called the "three R's" of waste management, this waste hierarchy is the guidance suggested for creating a sustainable life³².

"The three R's-reduce, reuse and recycle- all help to cut down on the amount of waste we throw away. They conserve natural resources, landfill space and energy. Plus, the three R's save land and money communities must use to dispose of waste in landfills. Siting a new landfill has become difficult and more expensive due to environmental regulations and public opposition." By refusing to buy items that you don't need, reusing items more than once and disposing the

²⁹ Zake J. 2007

³⁰ NEMA 200

³¹ EPA, 2008

³² <https://www.conserve-energy-future.com>

items that are no longer in use at appropriate recycling centers, one can contribute towards a healthier planet³³.

2.4.1 The First 'R' — Reduce

The concept of reducing what is produced and what is consumed is essential to the waste hierarchy. The logic behind it is simple to understand - if there is less waste, then there is less to recycle or reuse. The process of reducing begins with an examination of what you are using, and what it is used for. There are three simple steps to assessing the reduction value of an item or process. Is there something else that can be used for this purpose? Using multi-use items is essential to beginning reduction. One example would be a coffeepot and a cappuccino maker.

Both of them do distinctly different things, but you can buy a coffeepot that has a steaming attachment on it so it can do both. The purchase of the one item means that you don't use two, it reduces the amount of production, and the amount of waste packaging material that will be generated³⁴.

Here are some of things you can do to reduce the waste: 1. Print on both sides of the paper to reduce paper wastage; 2. Use electronic mail to reach out to people instead of sending paper mail; 3. Remove your name from the mailing lists that you no longer want to receive; 4. Use cloth napkins instead of paper napkins; 5. Avoid using disposable plates, spoons, glass, cups and napkins. They add to the problem and result in large amount of waste; 6. Avoid buying items that are over-packaged with foil paper, and plastic. This excess packaging goes to waste; 7. Buy durable goods that have long warranty. They generally run longer and save landfill space³⁵.

2.4.2 The Second 'R' — Reuse

You may have a box of things you keep that are broken or that you don't have a use for that you hang on to in-case you find another use for them; or you may find bargains on old furniture or go trash picking and get things that you can refinish. In either case you are working towards reusing the item. Learning to reuse items, or re-purpose them for a use different then what they are intended for is essential in waste hierarchy. One of the best examples for how this is being done today is the modular construction of homes and office buildings that is being created out of

³³ Ibid

³⁴ Ibid

³⁵ Ibid

discarded shipping containers. These large, semi-truck sized metal containers represent a huge waste problem. Repurposing them as homes And offices saves them from the landfills and does not require the additional expenditure of nature resources to melt down and reconfigure the metals used to create them³⁶.

You may either reuse those items for your own use or donate so that others can use them. You can reuse below items like: 1. Old jars and pots: Old jars and pots can be used to store items in kitchen. They can also be used to store loose items together such as computer wires; 2. Tyres: Old tyres can either be sent to recycling station or can be used to make tyre-swing; 3. Used wood: Used wood can be used as firewood or can be used woodcrafts; 4. Newspaper: Old newspapers can be used to pack items when you're planning to move to another home or store old items; 5. Envelopes: Old and waste envelopes can be used by children to make short notes; 6. Waste paper: Waste paper can be used to make notes and sketches and can be send to recycling center when you don't need³⁷.

2.4.3 The Third 'R' — Recycling

The last stage of the waste hierarchy is to recycle. To recycle something means that it will be transformed again into a raw material that can be shaped into a new item. There are very few materials on the earth that cannot be recycled. One of the issues facing communities that want to become more involved with a recycling effort is that while the relying collection and sorting process may be affordable to implement, there still has to be a facility to receive and transform the discarded waste into a raw material. More progress is being made toward uniting recycling plants with industries that can process the waste material through agreements and incentive credits³⁸.

By carefully choosing the products that can be recycled, can be a first step towards efficient recycling. 1. Buy products from market that are made up of recycled materials i.e. the product should be environment friendly; 2. Buy products that can be recycled such as glass jars; 3. Invent new ways to recycle different items; 4. Avoid buying hazardous materials that could pose difficulty for you to recycle. Buy non-toxic products, whenever possible; 5. Buy products that

³⁶ Ibid

³⁷ Ibid

³⁸ Ibid

have been made from recycled material; 6. Use recycled paper for printing or making paper handicrafts³⁹.

2.5 COLLECTION

Waste collection is the collection of solid waste from point of production (residential, industrial commercial, institutional) to the point of treatment or disposal. Solid waste (SW) is collected, in several ways: 1. House-to-House: Waste collectors visit each individual house to collect garbage. The user generally pays a fee for this service. 2. Community Bins: Users bring their garbage to community bins that are placed at fixed points in a neighborhood or locality. SW is picked up by the municipality, or local authorities, or it's designate, according to a set schedule. 3. Curbside Pick-Up: Users leave their garbage directly outside their homes according to a garbage pick-up schedule set with the local authorities (secondary house-to-house collectors not typical). 4. Self-Delivered: Generators deliver the waste directly to disposal sites or transfer stations, or hire third-party operators (or the municipality). 5. Contracted or Delegated Service: Businesses hire firms (or municipality with municipal facilities) who arrange collection schedules and charges with customers. Municipalities often license private operators and may designate collection areas to encourage collection efficiencies⁴⁰.

Collected SW can be separated or mixed, depending on local regulations. Generators can be required to separate their waste at source, e.g., into "wet" (food waste, organic matter) and dry" (recyclables), and possibly a third stream of "waste," or residue. Waste that is un-segregated could be separated into organic and recycling streams at a sorting facility. The degree of separation can vary over time and by city. 'Separation' can be a misnomer as waste is not actually separated but rather is placed out for collection in separate containers without first being 'mixed' together. Often, especially in developing countries, MSW is not separated or sorted before it is taken for disposal, but recyclables are removed by waste pickers prior to collection, during the collection process, and at disposal sites⁴¹.

³⁹ Ibid

⁴⁰ World bank: what waste |: a global review of solid waste management 13: chapter 4: waste collection

⁴¹ Ibid

2.6 HANDLING AND TRANSPORTATION

When we talk about solid waste management, there are many aspects of how such waste needs to be collected, treated, disposed of and other aspects. Today all modern towns and cities are facing the challenge of handling growing amounts of solid wastes and efficient management of such wastes including handling and transportation which is a subject of elaborate planning and management of the local authorities. Waste collection varies from country to country, region to region. The collection methods depend on the expanse of areas covered, the landfill areas the garbage needs to be transported to amongst other factors. Usually the local government arranges for the waste handling and transportation in most countries though in some places it is handled by private players. Again, in many rural areas of developing countries there is no formal waste collection method⁴².

Waste Handling and Transport in some advanced countries including those in Europe a vacuum based system is used to collect the refuse through underground conduits known as Envac. Here the refuse is transported to a designated area through a vacuum pump system, eliminating the need for manual handling of garbage. Metro Taifun is another vacuum based solution of single or ring line systems⁴³.

In many cities such as in Canada wastes are collected from the curbside in neighborhoods. Here the garbage bins are designated as wastes or recyclable materials and people are encouraged to segregate their waste before they drop them into the bins. These are then collected based on a daily schedule. In rural areas people need to transfer their garbage to a transfer station from where it is transported to a landfill area. Many Asian countries face problem of huge volumes of solid waste management. In many such countries such as Taipei, the government charges taxes as per the volume of garbage produced and issue garbage bags in which the waste needs to be collected and deposited by the city people. Such initiatives have helped to reduce the waste accumulation and encouraged people to recycle and reuse. The Arrow Bio system is commonly used in many countries such as Australia, Greece, Mexico, UK or California. Here the trash is collected in trucks and by mechanical methods such as gravitational screening, settling and hydro

⁴²Sushant solid waste management on October 9, 2011: <http://www.waste-management.in/waste-handling-and-transport.html>

⁴³ Ibid

mechanical shredding. Huge volumes of wastes are segregated, salvaged for recyclables and then turned into biogas or compost⁴⁴.

Thus, different countries and cities have different means of collecting wastes and transporting it but it still remains a huge responsibility on the civic authorities and they need the active help of the public in the growing waste management issues⁴⁵.

2.7 TREATMENT AND DISPOSAL

As cities are growing in size with a rise in the population, the amount of waste generated is increasing becoming unmanageable. The local corporations have adapted different methods for the disposal of waste — open dumps, landfills, sanitary landfills, and incineration plants. One of the important methods of waste treatment is composting⁴⁶.

2.7.1 Open dumps

Open dumps refer to uncovered areas that are used to dump solid waste of all kinds. The waste is untreated, uncovered, and not segregated. It is the breeding ground for flies, rats, and other insects that spread disease. The rainwater run-off from these dumps contaminates nearby land and water thereby spreading disease. In some countries, open dumps are being phased out⁴⁷.

2.7.2 Landfills

Landfills are generally located in urban areas where a large amount of waste is generated and has to be dumped in a common place. Unlike an open dump, it is a pit that is dug in the ground. The garbage is dumped and the pit is covered thus preventing the breeding of flies and rats. At the end of each day, a layer of soil is scattered on top of it and some mechanism, usually earthmoving equipment is used to compress the garbage, which now forms a cell. Thus, every day, garbage is dumped and becomes a cell. After the landfill is full, the area is covered with a thick layer of mud and the site can thereafter be developed as a parking lot or a park. Landfills have many problems. All types of waste are dumped in landfills and when water seeps through

⁴⁴ Ibid

⁴⁵ Ibid

⁴⁶ <http://edugreen.teri.res.in/explore/solwaste/disposal.htm>

⁴⁷ Ibid

them it gets contaminated and in turn pollutes the surrounding area. This contamination of groundwater and soil through landfills is known as leaching⁴⁸.

2.7.3 Sanitary landfills

An alternative to landfills which will solve the problem of leaching to some extent, is a sanitary landfill which is more hygienic and built in a methodical manner. These are lined with materials that are impermeable such as plastics and clay, and are also built over impermeable soil. Constructing sanitary landfills is very costly and they are having their own problems. Some authorities claim that often the plastic liner develops cracks as it reacts with various chemical solvents present in the waste⁴⁹.

The rate of decomposition in sanitary landfills is also extremely variable. This can be due to the fact that less oxygen is available as the garbage is compressed very tightly. It has also been observed that some biodegradable materials do not decompose in a landfill. Another major problem is the development of methane gas, which occurs when little oxygen is present, i.e. during anaerobic decomposition. In some countries, the methane being produced from sanitary landfills is tapped and sold as fuel.

2.7.4 Incineration plants

This process of burning waste in large furnaces is known as incineration. In these plants the recyclable material is segregated and the rest of the material is burnt. At the end of the process all that is left behind is ash. During the process some of the ash floats out with the hot air. This is called fly ash. Both the fly ash and the ash that is left in the furnace after burning have high concentrations of dangerous toxins such as dioxins and heavy metals. Disposing of this ash is a problem. The ash that is buried at the landfills leaches the area and cause severe contamination⁵⁰.

Burning garbage is not a clean process as it produces tons of toxic ash and pollutes the air and water. A large amount of the waste that is burnt here can be recovered and recycled. In fact, at present, incineration is kept as the last resort and is used mainly for treating the infectious waste.

⁴⁸ Ibid

⁴⁹ Ibid

⁵⁰ Ibid

2.8 EXTENDED PRODUCER RESPONSIBILITY - EPR

Extended Producer Responsibility or EPR is a legislative strategy used by most industrialized nations to promote reuse, recycling, and eco-friendly disposal of polymer waste. Polymer waste is generated during manufacturing, distribution and sale of a variety of products including consumer goods, tires etc. EPR assigns the responsibility of disposal of this waste to the manufacturer of the goods. For example, disposal of post-consumer laminate waste (PCLW) or flexible packaging used for food items, consumer goods, and water bottles is assigned to consumer goods manufacturers. Similarly, the responsibility of disposal of Waste tires disposal responsibility is assigned to the tire manufacturing companies under EPR⁵¹.

At the Centre of EPR lies a closed loop approach to managing products, whereby waste generated from a product is used to produce another product. This approach ensures the price of the product includes the cost of its safe disposal. Therefore, this approach significantly reduces the environmental impact of the waste as well as leads to lower cost of production for the new product. Product manufacturers are best-placed to reduce the environmental impact of waste by ensuring they use input materials and packaging strategies that reduce waste generation. Since EPR has shifted the burden of waste disposal from governments to these product manufacturers, it has driven the adoption of innovative product and packaging strategies leading to reduction in plastic waste⁵².

2.9 POLLUTER PAYS PRINCIPLE

The Polluter Pays Principle (PPP) is an environmental policy principle, which requires that the costs of pollution inflicted on the natural environment be borne by those who cause it. Main tenet of the PPP is that the prices of goods and services should reflect the full costs of production, including resource costs and environmental externalities. Through the internalization of resource costs and environmental externalities into the economic sphere, the PPP seeks to: Promote economic efficiency by encouraging producers to use scarce environmental resources more efficiently, to reduce waste and to increase possibilities for reuse and recycling; Avoid

⁵¹ Ibid

⁵² Ibid

distortions in international trade and investment by eliminating all kind of subsidies, which would prevent producers to bear the costs of pollution⁵³.

In the following, different methods of applying the PPP in waste management are briefly presented.

2.9.1 Waste tariffs/fees for waste collection/treatment/disposal

The most obvious (and common) economic instrument used to apply PPP are waste tariffs or fees charged upon different waste producers (i.e. households/consumers, commerce, industry), aimed at recovering the cost of building and operating the services and infrastructure required for collection, treatment and disposal of the waste they produce. When correctly applied, they also send signals to consumers to reduce the amount of waste produced⁵⁴.

2.6.2 Environmental taxes.

Other economic instruments are applied to discourage consumption of specific types of products, and thus reduce the arising of specific types of waste (i.e. product taxes), or to discourage specific types of waste disposal schemes (i.e. landfill tax). Usually, environmental taxes have the objective of raising revenue to support environmental programs, which however must not necessarily be targeted at dealing with the specific type of waste from which the tax comes from. Product taxes are applied on the price of certain goods such as disposable or non-recyclable beverage containers, plastic tableware, plastic bags, disposable cameras, products containing hazardous substances, etc.). Raw material taxes, are similar to product taxes but they are effective further upstream in the product lifecycle. They are applied on raw material used for the production of goods whose consumption is to be discouraged (i.e. raw material used to produce plastic liquid containers). Waste disposal or landfill taxes have been introduced in several EU countries as a means to discourage land filing of waste and/or providing incentives for general waste prevention or recycling⁵⁵.

⁵³ Christian scempp, JASPER Knowledge. Economy, energy and waste division staff working papers application of the polluters pays principle (PPP) in waste management projects.

⁵⁴ Ibid pg. 3

⁵⁵ Ibid

CHAPTER THREE

3. 0 LEGAL FRAMEWORK

3.1 THE 1995 CONSTITUTION OF UGANDA

According National Objectives and Directive Principles of State Policy the State shall provide peaceful, secure and stable political environment which is necessary for economic development⁵⁶. Similarly the State shall promote sustainable development and public awareness of the need to manage land, air and water resources in a balanced and sustainable manner for the present and future generations. The utilization of the natural resources of Uganda shall be managed in such a way as to meet the development and environmental needs of present and future generations of Ugandans; and, in particular, the State shall take all possible measures to prevent or minimize damage and destruction to land, air and water resources resulting from pollution or other causes. The State shall promote and implement energy policies that will ensure that peoples basic needs and those of environmental preservation are met. The State. Including local governments, shall (a) create and develop parks, reserves and recreation areas and ensure the conservation of natural reset (s), (h) promote the rational use of natural resources as to safeguard and protect the biodiversity of Uganda⁵⁷.

It is the duty of every citizen to create and protect a clean and healthy environment⁵⁸ and every Ugandan has a right to a clean and healthy environment⁵⁹. Subject to the provisions of the Constitution, the functions and services specified in the Sixth Schedule to this Constitution shall be the responsibility of the Government⁶⁰ and these are Land, mines, mineral and water resources and the environment⁶¹. The Parliament shall, by law, provide for measures intended (a) to protect and preserve the environment from abuse, pollution and degradation; (b) to manage the environment for sustainable development; and (c) to promote environmental awareness⁶².

⁵⁶ Objective iii. para v

⁵⁷ Objective XXVIII

⁵⁸ ARTICLE 17 PARA J

⁵⁹ Article 39

⁶⁰ Article 189(1)

⁶¹ Sixth schedule

⁶² Article 245

3.2 THE NATIONAL ENVIRONMENT ACT, 2019.

The purpose of the Act is to repeal, replace and reform the law relating to environmental management in Uganda; to provide for the management of the environment for sustainable development; to continue the National Environment Management Authority as a coordinating, monitoring, regulatory and supervisory body for all activities relating to environment; to provide for emerging environmental issues including climate change, the management of hazardous chemicals and biodiversity offsets; to provide for strategic environmental assessment; to address environmental concerns arising out of petroleum activities and midstream operations, to provide for the management of plastics and plastic products; to establish the Environmental Protection Force; to provide for enhanced penalties for offences under the Act; to provide for procedural and administrative matters; and for related matters⁶³.

The Act defines waste to mean any substance or object which is dumped, abandoned, discarded or disposed of or intended or required by law to be disposed of⁶⁴. One of the major principles of environment management is promoting circular economy by maximizing production efficiency to conserve the use of the environment and natural resources and to control the generation of waste to the greatest extent possible by preventing or reducing the generation of waste from production processes or products and consumption patterns⁶⁵. Accordingly the use of circulative resources, the Authority may, by statutory instrument, require a person engaged in production processes or any other person to make use of nonhazardous circulative resources extracted from waste materials by recirculation the resources in the production process in conformity with the waste management hierarchy.⁶⁶

Part VIII of the National Environment Act 2019 provides for management of waste and the duty to manage waste⁶⁷ and it is stated that (1) a person who generates or handles waste shall be responsible for its proper management and (2) the person responsible for managing waste under subsection (1) shall take such steps as are necessary to prevent pollution arising from such management and where pollution occurs, to minimize the consequences of the pollution on human health and the environment. Under subsection (3) A person engaged in petroleum

⁶³ Long title of the act

⁶⁴ Section 2

⁶⁵ Section 5 (p)(i)

⁶⁶ Section 77

⁶⁷ Section 96

activities under the Petroleum (Exploration, Development and production) Act, 2013 or midstream operations under the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013 shall be responsible for the proper management of petroleum waste in accordance with the applicable law.

Littering is prohibited⁶⁸ and a person, who owns or occupies any dwelling or commercial premises, is responsible for waste generated at those premises until it is collected by the authorized person⁶⁹. Similarly, a person driving a vehicle is responsible for the sanitary condition of the vehicle and for the waste generated in the vehicle⁷⁰. A person shall not place, deposit or allow any waste to be placed or deposited on his or her premises or on private property, on a Public street, Roadside, or in a ditch, river, stream, lake, pond, canal, channel, park, gulch, ravine, excavation, or other place where it may be or become a public health nuisance⁷¹ Under the Act littering means disposing waste in a place not designated as a disposal area or waste collection point⁷²

It is an offence for a person who deposits hazardous waste on his or her premises or on private property, on a public street, roadside, or in a ditch, river, stream, lake, pond, canal, channel, park, gulch, ravine, excavation, or other place commits the offence of aggravated littering and is liable, on conviction to a fine not exceeding five thousand currency points or imprisonment not exceeding ten years, or both⁷³. The Act extends producer responsibility and product stewardship by requiring that a person who develops, manufactures or processes any product shall minimize the waste generated from the production processes by adopting the following measures (a) improvement of production processes; (b) monitoring the product cycle from beginning to end; and (c) incorporating measures and technologies that deliver the best overall environmental outcome in the design and disposal of a product⁷⁴.

⁶⁸ Section 97 (1)

⁶⁹ Section 97(2)

⁷⁰ Section 97(3)

⁷¹ Section 97(4)

⁷² Section 97(8)

⁷³ Section 97(10)

⁷⁴ Section 98(1)

A person shall not import waste into Uganda for treatment or disposal, except as may be prescribed by regulations⁷⁵ and a person who imports any waste into Uganda for disposal or contrary to this Act shall be responsible for the removal of the waste from Uganda and for its re-export or safe disposal⁷⁶. Also a person who imports waste into Uganda shall be liable for any damage to human health or to the environment caused by the waste imported⁷⁷. A person who intends to export waste shall apply for a license from the Authority in the manner prescribed by regulations⁷⁸.

For trans-boundary movement of hazardous waste, the Authority shall make available to the public, information on trans-boundary movement of hazardous waste and other waste and related effects on human health and the environment⁷⁹. A person shall not engage in the trans-boundary movement of hazardous waste or other waste except in accordance with regulations made under the Act⁸⁰. And a person transporting waste through Uganda shall (a) ensure that the Authority and the relevant lead agencies have been notified and have authorized the transportation; b) ensure that the waste transported conforms to national standards and accompanying movement documents; c) ensure that the waste is not disposed of in Uganda; d) ensure that the trans-boundary movement of waste is reduced to the minimum consistent with environmentally sound and efficient management of such waste; and e) ensure that the trans-boundary movement of waste is conducted in a manner that protects human health and the environment against the adverse effects which may result from such movement⁸¹.

The Authority may issue an environmental restoration order to any person whose activities cause or are likely to cause pollution contrary to the Act or which are deleterious to human health or the environment⁸² and an environmental restoration order may require a person on whom it is

⁷⁵ Section 97(1)

⁷⁶ Section 97(3)

⁷⁷ Section 97(3)

⁷⁸ Section 100(1)

⁷⁹ Section 101(3)

⁸⁰ Section 101(4)

⁸¹ Section 101(5)

⁸² Section 101(5)



served 0 to remove any material, waste or refuse deposited in, on, under or around the land or other area specified in the order; g) to deposit waste in a place named in the order⁸³.

Any person who fails to package, label or mark chemicals, hazardous waste or other material required to be packaged, labeled or marked under the Act commits an offence and is liable, on conviction, to a fine not exceeding fifty thousand currency points or imprisonment not exceeding fifteen years, or both⁸⁴.

For the Illegal management of waste it is provided that a person who (a) imports, exports or transits through Uganda, any hazardous waste in contravention of this Act or regulations made under this Act; (b) engages in illegal trans-boundary movement of waste; (c) aids or abets the illegal trans-boundary movement of hazardous waste; (d) mislabels hazardous waste; (e)disposes of any waste in contravention of this Act or of any condition specified in a license or permit, (f) fails to manage waste in accordance with this Act; or (g) withholds information about the management of hazardous waste. Commits an offence and is liable, on conviction, to a fine not exceeding fifty thousand currency points or imprisonment not exceeding fifteen ears or both⁸⁵.

A person engaged in an activity listed in Schedules 4, 5 or 10 of the Act shall submit to the Authority an annual report as may be prescribed by the Authority⁸⁶ and the annual report under subsection (1) shall contain among others information on (e) waste management, including types and quantities of waste generated⁸⁷.

3.3 THE PETROLEUM (EXPLORATION, DEVELOPMENT AND PRODUCTION) ACT, 2013

The purpose of the Act is to give effect to article 244 of the Constitution; to regulate petroleum exploration, development and production; to establish the Petroleum Authority of Uganda; to provide for the establishment of the National Oil Company; to regulate the licensing and participation of commercial entities in petroleum activities; to provide for an open, transparent and competitive process of licensing; to create a conducive environment for the promotion of exploration, development and production of Uganda's petroleum potential; to provide for

⁸³ Section 101(1)

⁸⁴ Section 161(1)

⁸⁵ Section 101(5)

⁸⁶ Section 162(5)

⁸⁷ Section 177(1)

efficient and safe petroleum activities; to provide for the cessation of petroleum activities and decommissioning of infrastructure; to provide for the payment arising from petroleum activities; to provide for the conditions for the restoration of derelict lands; to repeal the Petroleum (Exploration and Production) Act, Cap 150; and for related matters⁸⁸.

Under the Act waste includes any matter prescribed to be waste and any matter whether liquid, solid, gaseous or radioactive which is discharged, emitted or released to the environment in such a volume. Composition or manner as to cause an alteration of the environment⁸⁹. Under compliance with environmental principles, a licensee shall ensure that the management of production. Transportation storage treatment and disposal of waste arising out of petroleum activities is carried out in accordance with environmental principles and safeguards prescribed under the National Environment Management Act and other applicable laws⁹⁰. And a licensee shall contract a separate entity to manage the transportation, storage, treatment or disposal of waste arising out of petroleum activities⁹¹.

For work practices for licensees under the Act, a licensee shall take all reasonable steps necessary to secure the safety, health, environment and welfare of personnel engaged in petroleum activities in the license area including among others (a) controlling the flow, and preventing the waste or discharge, into the surrounding environment, of petroleum, gas which is not petroleum or water; and (f) preventing the pollution of any water well, spring, stream, river, lake or reservoir by the escape of petroleum, water, drilling fluid, chemical additive, gas not being petroleum or any other waste product or effluent⁹².

During the Production of petroleum, it is provided that the production of petroleum shall take place in accordance with prudent technical and sound economic principles and in such a manner that waste of petroleum or reservoir pressure is avoided⁹³. Meanwhile the Minister may make regulations relating to among others the conservation and prevention of the waste of natural

⁸⁸ The long title of act

⁸⁹ Section 2(1)

⁹⁰ Section 3 (2)

⁹¹ Section 3(3)

⁹² Section 88(2)

⁹³ Section 97(2)

resources, whether petroleum or otherwise, and the carrying out of environmental impact assessments for that purpose⁹⁴.

3.4 THE ATOMIC ENERGY ACT, 2008

The purpose of the Act is to regulate the peaceful applications of ionizing radiation; to establish the Atomic Energy Council to provide for the protection and safety of individuals, society and the environment from the dangers resulting from ionizing radiation; to provide for the production and use of radiation sources and the management of radioactive waste; to provide for a framework for the promotion and development of nuclear energy for use in power generation and other peaceful purposes; to provide for compliance with international safety requirements for the use of ionizing radiation, radiation protection and security of radioactive sources; to repeal the Atomic Energy Act, Cap. 143; and for other related matters⁹⁵.

Under the Act waste means substances which constitute scrap material or effluent or other unwanted surplus substance arising from the application of any process, and includes any substance or article which requires to be disposed of as being broken, worn out, contaminated or otherwise spoilt and radioactive waste means material, whatever its physical form, remaining from practices or interventions and for which no further use is foreseen (a) that contains or is contaminated with radioactive substances and has an activity or activity concentration higher than the exempted levels; and (b) exposure to which is not excluded from the Standards⁹⁶. Similarly any substance or article, which, in the course of the carrying on of any practice, is discharged, discarded or otherwise dealt with as if it were waste, shall, for the purposes of this Act, be presumed to be waste unless the contrary is proved⁹⁷.

Under the Act access to premises by Radiation Protection Officers and authorized persons is required and every owner or occupier, and every agent or employee of the owner or occupier of any premises. Vehicle, vessel or aircraft in or on which there is any source, or any radioactive apparatus or materials, or in which was installed. Accumulated Disposed of or transported. Shall,

⁹⁴ Section 183(3) (f)

⁹⁵ Section long title of the act

⁹⁶ Section 3(3)

⁹⁷ Section 21(2)

upon demand by a radiation protection officer in accordance with subsection means required or necessary to facilitate the entry, inspection, examination. Inquiry akin of samples or any other act in furtherance of this Act⁹⁸.

Nuclear Energy Unit is established⁹⁹ and the functions of the Nuclear Energy Unit are among others (d) to prepare a plan for the management, interim storage and final disposal of nuclear waste from operations of Nuclear Power Plants¹⁰⁰. Similarly the Council may, by statutory instrument, make regulations generally for the better carrying into effect of the provisions of this Act¹⁰¹ and notwithstanding the generality of subsection (1), regulations made under this section may provide for j) the management and disposal of radioactive waste¹⁰².

3.5 THE KAMPALA CAPITAL CITY ACT, 2010

The purpose of the Act is to provide, in accordance with article 5 of the Constitution, for Kampala as the capital city of Uganda; to provide for the administration of Kampala by the Central Government; to provide for the territorial boundary of Kampala; to provide for the development of Kampala Capital City; to establish the Kampala Capital City Authority as the governing body of the city; to provide for the composition and election of members of the Authority; to provide for the removal of members from the Authority; to provide for the functions and powers of the Authority; to provide for the election and removal of the Lord Mayor and the Deputy Lord Mayor: to provide for the appointment, powers and functions of an executive director and deputy executive director of the Authority: to provide for lower urban councils under the Authority: to provide for the devolution by the Authority of functions and services; to provide for a Metropolitan Physical Planning Authority for Kampala and the adjacent districts; to provide for the power of the Minister to veto decisions of the Authority in certain circumstances and for related matters¹⁰³.

Part B of the third schedule of the Act in relation to section 35 which provides for functions which may be devolved to division urban councils lies down functions and services to be devolved by the authority to division urban councils to include among others vector and vermin

⁹⁸ Section 21(2)

⁹⁹ Section 53(1)

¹⁰⁰ Section 53(2)

¹⁰¹ Section 73(1)

¹⁰² Section 73(2)

¹⁰³ The long title of the act

control and management of solid waste and collection and disposal of garbage and management of solid waste.

3.6 THE NATIONAL INFORMATION TECHNOLOGY AUTHORITY, UGANDA ACT, 2009.

The purpose of the Act is to provide for the establishment of the National Information Technology Authority, Uganda and to provide for its objects, functions, composition, management and finances; and other related matters¹⁰⁴. And e-waste is defined to mean any form of waste that is accumulated as a result of hardware used in information technology; “information technology” means the science¹⁰⁵. It should be noted that where e-waste is defined under the Act, it is not mentioned anywhere else in the Act nor are there any provisions for its management and disposal.

3.7 WATER ACT CAP 152

The purpose of the Act is to provide for the use. Protection and management of water resources and supply; to provide for the constitution of water and sewerage authorities; and to facilitate the devolution of water supply and sewerage undertakings¹⁰⁶. And waste is defined to include sewage and any other matter or thing, whether wholly or partly in solid, liquid or gaseous state, which if added to any water may cause pollution¹⁰⁷.

One of the objectives of the Act are among others is (d) to control pollution and to promote the safe storage, treatment, discharge and disposal of waste which may pollute water or otherwise harm the environment and human health¹⁰⁸ and requires any interests to be in accordance with the Act by stating among others that notwithstanding any other law to the contrary, no person shall acquire or have a right to (c) cause or allow any waste to come into contact, whether directly or indirectly, with any water, other than under the provisions of the Act¹⁰⁹.

¹⁰⁴ The long title of the act

¹⁰⁵ Section 2

¹⁰⁶ Long title of the act

¹⁰⁷ Section 2

¹⁰⁸ Section 4

¹⁰⁹ Section 6

An application for a waste discharge permit can be made by a person wishing to discharge waste by applying to the director for a waste discharge permit in the prescribed manner¹¹⁰. When granted a permit the conditions of any waste discharge permit may (a) specify, restrict or prohibit certain types, volumes or concentrations of waste which may be produced, stored, discharged or deposited; (b) specify the manner in which waste is to be stored, treated, discharged or otherwise dealt with; (c) require the holder, at his or her own cost, to install pollution control or waste treatment equipment of a type specified by the director and to operate that equipment in a manner determined by the director; (d) require the holder to take measures specified by the director for the purpose of minimizing the possibility of pollution occurring as a result of any activity conducted or proposed to be conducted on land owned or occupied by the holder; (e) require the holder, at his or her own cost, to provide monitoring equipment specified by the director; (f) require the holder, at his or her own expense, to carry out a monitoring program specified by the director and to provide the director with information and data relating to the characteristics, volume and effects of waste being produced, stored, treated, discharged, deposited or otherwise disposed of; (g) require the holder to do or cause to be done any other act or thing specified by the director which the director considers necessary for protecting the environment or preventing, controlling or abating pollution¹¹¹. But the holder of a waste discharge permit who wishes to drain waste from his or her land over land owned or occupied by another person may apply to the director for the creation of an easement over that land if he or she has been unable to obtain an easement by agreement with the owner or occupier of that land¹¹². The Act prohibits pollution by providing that a person commits an offence who, unless authorized under the Act, causes or allows (a) waste to come into contact with any water; (b) waste to be discharged directly or indirectly into water; (c) water to be polluted¹¹³.

By regulations or a sewerage authority may declare (a) any type of waste to be trade waste which may not be discharged; (b) any type of trade, classes of premises or particular premises in which trade waste may not be discharged, directly or indirectly into any sewer, sewer connection, building sewer or connected fittings except in accordance with a trade waste agreement¹¹⁴. A

¹¹⁰ Section 29

¹¹¹ Section 29(7)

¹¹² Section 36(2)

¹¹³ Section 31(1)

¹¹⁴ Section 68(1)

person (a) responsible for the production, storage³ discharge or deposit of any waste; (b) engaged in any trade; (c) owning or occupying any premises, shall not cause or permit waste declared under subsection (1) to be directly discharged into any sewer, sewer connection, building sewer or connected fittings except in accordance with a trade waste agreement¹¹⁵

(1) A sewerage authority may enter into a trade waste agreement with any person for discharge of waste into a sewer or the storage or; treatment of waste by the sewerage outhunt; on terms and in a manner and I for a period that the sewerage authority may decide or as may be prescribed¹¹⁶.

Unless the sewerage authority is of the opinion that the concentration of the waste at the point of discharge from land occupied by that person will not (a) adversely affect (i) the life, health or safety of any person; (ii) the works of the authority; (iii) any sewerage treatment process employed by the authority; or (b) after treatment by the authority, affect (i) the life, health or safety of any person; or (ii) any part of the environment, any trade waste agreement made under subsection (1) shall include a condition requiring the treatment of waste before it is discharged¹¹⁷

¹¹⁵ Section 68(2)

¹¹⁶ Section 69(1)

¹¹⁷ Section 69(2)

CHAPTER FOUR

4.0 INSTITUTIONAL FRAME WORK

4.1 MINISTRY OF WATER AND ENVIRONMENT

The Ministry of Water and Environment (MWE) was established in 2007, from the then Ministry of Water, Lands and Environment, following the cabinet decision taken on 15th April, 2007. It has the overall responsibility of the development, managing, and regulating water and Environment resources in Uganda. The Ministry of Water and Environment is committed to avoiding, minimizing, and mitigating adverse environmental and social impacts associated with its projects, as well as adopting a gender-sensitive and gender-equitable approach for all its projects. The Ministry is also committed to ensuring transparency and accessibility of information, in addition to facilitating the resolution of disputes. With respect to environmental and social risks and gender considerations¹¹⁸.

The Ministry of Water and Environment (MWE) has the responsibility for setting national policies and standards, managing and regulating water resources and determining priorities for water development and management. It also monitors and evaluates sector development programs to keep track of their performance, efficiency and effectiveness in service delivery. MWE has three directorates: Directorate of Water Resources Management (DWRM), Directorate of Water Development (DWD) and the Directorate of Environmental Affairs (DEA)¹¹⁹.

The Water and Environment Sector consists of two sub-sectors: The Water & Sanitation (WSS) sub-sector and the Environment & Natural Resources (ENR) sub-sector. The Water and Sanitation Sub-Sector comprises of Water Development, Water Resources Management, Rural Water Supply and Sanitation, Urban Water Supply and Sanitation, and Water for Production.

The Environment and the Natural Resources Sub-Sector comprises Environmental Management; management of forests and trees; management of Wetlands and aquatic resources; and Meteorology; Weather and Climate Change¹²⁰.

¹¹⁸ <https://www.mwe.go.ug/mwe/about-ministry> retrieved 27th may 2019

¹¹⁹ <https://www.mwe.go.ug/mwe/about-ministry> retrieved 27th may 2019

¹²⁰ <https://www.mwe.go.ug/mwe/institutional-framework-water-and-environment> retrieved 27th may 2019

The Mandate of the Ministry is derived from the Constitution and the Local Government Act and includes initiating legislation, policy formulation, setting standards, inspections, monitoring, and coordination and back up technical support in relation to water and environment sub sectors. The Vision of the Water and Environment Sector is ‘Sound management and sustainable utilization of Water and Environment resources for the betterment of the population of Uganda. Its Mission is to promote and ensure the rational and sustainable utilization, development and effective management of water and environment resources for socio-economic development of the country

Among the ministries roles and functions is to developing legislations. policies and standards for management of water and environment resources; providing sustainable safe water supply and sanitation facilities in rural areas; and providing viable water supply and sewerage sanitation systems for domestic, industrial and commercial use in urban areas. And among its overall strategic objectives for Water and Environment Sector are: d) to increase water supplies and sewerage services in small towns, large towns, municipalities and cities focusing on the areas earmarked for industrial parks; e) to improve water resources management to ensure adequate quantity and quality for the various uses focusing on compliance to existing laws and regulations on the use of the resources at all levels; and j) to review, develop and reform institutional frameworks, laws, policies and regulations to ensure fast and effective delivery of services¹²¹.

The following parastatal institutions and authorities are under the Ministry of Water and Environment¹²²:

The National Water and Sewerage Corporation (NWSC) is a parastatal that operates and provides water and sewerage services for 23 large urban centers across the country including Kampala. NWSC’s activities are aimed at expanding service coverage, improving efficiency in service delivery and increasing labor.

The National Environment Management Authority (NEMA): NEMA responsible for the regulatory functions and activities that focus on compliance and enforcement of the existing legal and institutional frameworks on environmental management in Uganda. NEMA’s mandate covers both green and brown issues of environmental management. It oversees the

¹²¹<https://www.mwe.go.ug/mwe/about-ministry> retrieved 27th may 2019

¹²²<https://www.mwe.go.ug/mwe/mwe-structures> retrieved 27th may 2019

implementation of all environment conservation programs and activities of the relevant agencies both at the national and local Government level.

The National Forestry Authority (NFA) is responsible for sustainable management of Central Forest Reserves (CFRs), supply of seed and seedlings, and provision of technical support to stakeholders in the forestry sub-sector on contract. NFA is a semi-autonomous business entity and generates most of its own revenues and finances its activities, i.e. NFA's support is contingent upon payment for its services.

4.2 KAMPALA CAPITAL CITY AUTHORITY

Kampala Capital City Authority is established under The Kampala Capital City Act, 2010¹²³ and the Authority shall be a body corporate with perpetual succession and may sue and be sued in its corporate name and do, enjoy or suffer anything that may be done, enjoyed or suffered by a body corporate¹²⁴

The Authority may, in consultation with the Central Government, devolve the functions and services specified in Part B of the Third Schedule to the Kampala Capital City Act to the division urban council¹²⁵ and among functions and services devolved under part B among others include vector and vermin control and management of solid waste and collection and disposal of garbage and management of solid waste

4.3 NATIONAL WATER AND SEWERAGE CORPORATION

The National Water and Sewerage Corporation Act Chapter 317 establish the National Water and Sewerage Corporation and the purpose of the Act is to revise the objectives, powers and structure of the National Water and sewage cooperation. The A provides that the national Water and Sewerage Corporation shall continue in existence as a body cooperate¹²⁶. It further states that

¹²³ The kampala capital city act, 2010 section 5(1)

¹²⁴ Ibid section 5(2)

¹²⁵ Ibid section 35

¹²⁶ National water and sewerage corporation act chapter 317 section 2

the corporation may (a) do and suffer all acts and thin that lawfully do or suffer; (b) acquire, hold and dispose of real and personal property: (c) sue sued in its corporate name¹²⁷.

The objects of the corporation shall be to operate and provide water and sewerage services in areas entrusted to it under the Water Act¹²⁸. Some of the functions of the corporation among others shall be to provide sewerage services, in any area in which it may be appointed to do so under this Act or the Water Act, to the extent and standards that may be determined by its corporate plan, any performance contract, and regulations made under this Act or the Water Act and to develop the water and sewerage systems in urban centers and big national institutions throughout the country¹²⁹.

Among the powers of the corporation, (1) it may organize and conduct training programs in connection with the provision of water and sewerage services; and (m) provide specialist assistance relating to water supply or sewerage services to any public authority on such terms as may be agreed upon by the corporation and the public authority¹³⁰.

Similarly there a corporate plan shall be in a form approved by the Minister and shall include, among others, the services that the corporation expects to provide for each area for which the corporation is appointed a water supply or sewerage authority under the Act or the Water Act and the standards expected to be achieved in providing those services¹³¹. The corporation shall in relation to each area in which it is empowered LO supply water and sewerage services under the Act or the Water Act, in respect of each financial year. prepare an annual report containing a report of its operations during the financial year¹³² and the report of operations referred to under subsection (1)(a) shall (a) report separately on the activities of the corporation in each area in which it is empowered to supply water and sewerage services

¹²⁷ *ibid*

¹²⁸ *ibid* section 4 (1)

¹²⁹ *ibid* section 4(2)

¹³⁰ *ibid* section 5 (2)

¹³¹ *ibid* section 20(1)

¹³² *ibid* section 29(1)

4.4 NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Under the National Environment Act, 2019 the National Environment Management Authority established under the National Environment Act, Cap. 153 and existing immediately before the coming into force of this Act shall continue in existence, subject to the Act¹³³. The Authority shall be a body corporate with perpetual succession and a common seal¹³⁴ and shall, in its own name, be capable of suing and being sued and doing and suffering all acts and things as a body corporate may lawfully do or suffer¹³⁵. The Authority shall be under the general supervision of the Minister¹³⁶.

Among the functions of the authority is (h) to regulate environmental practitioners in the environmental and social impact assessment and environmental audit processes; (i) to review and make decisions on environmental and social impact assessments, environmental audits and other studies or reports submitted in accordance with this Act or any other applicable law; (j) to issue permits and licenses in accordance with this Act and any other applicable law; (k) to undertake and coordinate environmental monitoring, inspections and compliance audits; and (l) to undertake and support research in innovations, new technologies and emerging issues on environment¹³⁷.

The Authority shall not permit the export of waste (a) to a country which has prohibited the import of such waste with notification to Uganda; (b) to a country which has not prohibited the import of waste, except with the written consent of that country to the specific import; or (c) if the Authority has reason to believe that the waste in question will not be managed in an environmentally sound manner¹³⁸.

A person who intends to export waste shall apply for a license from the Authority in the manner prescribed by regulations¹³⁹ and the Authority may grant a license for the export of waste from Uganda, where it is satisfied that the applicant has, subject to section 99(2), obtained the consent of the country to which the waste is being exported and where applicable, the country through

¹³³ The national environment act, 2019 section 8(1)

¹³⁴ Ibid section 8(2)

¹³⁵ Ibid section 8(3)

¹³⁶ Ibid section 8(4)

¹³⁷ Ibid section 9(2)

¹³⁸ Ibid section 99(2)

¹³⁹ Ibid section 100(1)

which the applicant intends to move the waste¹⁴⁰. The Authority may grant a license for the export of waste upon such conditions as it may deem necessary¹⁴¹.

Under the Act the Authority is the Designated National Authority for the operation of the prior informed consent procedure for the import, export, transit or other trans-boundary movement of hazardous waste¹⁴². The Authority shall cooperate with Designated National Authorities of other states under international conventions or arrangements to which Uganda is a party and international organizations with competence in the management of trans-boundary movement of hazardous waste¹⁴³. The Authority is mandated to make available to the public. Information on trans-boundary movement of hazardous waste and other waste and related effects on human health and the environment¹⁴⁴. A person transporting waste through Uganda shall(a) ensure that the Authority and the relevant lead agencies have been notified and have authorized the transportation¹⁴⁵

¹⁴⁰ Ibid section 100(2)

¹⁴¹ Ibid section 100(5)

¹⁴² Ibid section 101(1)

¹⁴³ Ibid section 101(2)

¹⁴⁴ Ibid section 101(3)

¹⁴⁵ Ibid section 101(5)

CHAPTER FIVE

5.1 RESEARCH FINDINGS

A broad range of issues regarding waste management have been covered in the research. It has in detail looked at what is entailed in waste, forms of waste, waste management, waste hierarchy, the extended producer responsibility and the polluter pays principle; the legal and institutional framework regulating the waste management. In the course of this research, the researcher has been able to come up with certain research findings relating to waste management amongst the different institutions.

On the concept of reducing what is produced and what is consumed the researcher found out that if there is less waste, then there is less to recycle or reuse. Also he discovered that the process of reducing begins with an examination of what you are using, and what it is used for. Across the country Ugandans are using materials that serve the same purpose differently to achieve the same goal for example the different packaging materials like polythene bags, sacks, boxes. paper bags all serve the same purpose of package.

On reuse the researcher found out that learning to reuse items, or re-purpose them for a use different then what they are intended for is essential. he also noticed that one of the best examples for how this is being done today is the modular construction of homes and office buildings that is being created out of discarded shipping containers. The best example of this in Uganda was seen during the days when many kiosks in the central business area in Kampala were made of discarded shipping containers. This was however brought to an end by Kampala Capital City Authority when it outlawed the use of these discarded shipping containers as kiosks in the city center in the 2016.

On recycle the researcher found out that to recycle something means that it will be transformed again into a raw material that can be shaped into a new item. Also worth is the discovery that there are very few materials on the earth that cannot be recycled. A very good example of recycling in Uganda today is the garbage collected to make charcoal bricks and the use of water bottles to make tiles and other building equipment.

On collection the researcher found out that the collection of solid waste is from point of production to the point of treatment or disposal. The research also found out that some of the

examples of collection are House-to-House, Community Bins, Curbside Pick-Up, Self-Delivered and lastly Contracted or Delegated Service which is currently employed by Kampala Capital City Authority that contracted M/s Kampala Solid Waste Management Consortium, Nabugabo Updeal Joint Venture a private company, Bin and Homeklin (U) Limited. These companies are private limited companies that collect waste using the house-house and community bins method and take the waste to landfills like the Kiteezi Landfill.

On Waste Handling and Transport, the researcher found out that in some advanced countries including those in Europe a vacuum based system is used to collect the refuse through underground conduits known as Envac. But for the case of Uganda the private contract companies stated above mainly use vehicles or truck to handle and transport the waste from the homes to landfill. The case of sewerage there is an established sewer system than transport waste that is in liquid form. However, majority of the mass have adopted to pit latrines to dispose of waste

On disposal the researcher found out that disposal of waste can be done in open dumps, landfills, sanitary landfills, and incineration plants. However, for the case of Uganda the only employed means of disposal is landfills and a good example is the Kiteezi landfill.

The research findings shows that the Mandate of the Ministry is derived from the Constitution and the Local Government Act and includes initiating legislation, policy formulation, setting standards, inspections, monitoring, and coordination and back up technical support in relation to water and environment sub sectors. The Vision of the Water and Environment Sector is 'Sound management and sustainable utilization of Water and Environment resources for the betterment of the population of Uganda. Its Mission is to promote and ensure the rational and sustainable utilization, development and effective management of water and environment resources for socio-economic development of the country

Among the ministries roles and functions is to developing legislations. policies and standards for management of water and environment resources; providing sustainable safe water supply and sanitation facilities in rural areas; and providing viable water supply and sewerage sanitation systems for domestic, industrial and commercial use in urban areas. And among its overall strategic objectives for Water and Environment Sector are: d) to increase water supplies and

sewerage services in small towns, large towns, municipalities and cities focusing on the areas earmarked for industrial parks; e) to improve water resources management to ensure adequate quantity and quality for the various uses focusing on compliance to existing laws and regulations on the use of the resources at all levels; and j) to review, develop and reform institutional frameworks, laws, policies and regulations to ensure fast and effective delivery of services.

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5.2 RECOMMENDATIONS

On the concept of reducing the researcher recommends that legal framework should be revised and aimed towards this concept of reducing solid waste and the institutional framework should through sensitizations and public notices encourage the masses to reduce the amount of waste generated. A uniform mandatory packaging material should be adopted in an effort to also reduce waste.

On reuse the researcher recommends that the masses should be sensitized on the use of reusable materials in their daily lives. Paper bags could be a better packaging option since it can be reuse and even if dumped it easily decomposes. The research also recommends that the use of discarded shipping containers as kiosks was a good move and the ban on them discouraged this aspect of use.

On recycle the researcher recommends that the innovations made by the population on recycling waste should be encouraged in tile legal and institutional framework for example there can be taxi incentives on persons dealing in the recycle of solid waste like those currently manufacturing tiles and other building materials from garbage. The engagement of the masses to use products manufactured from recycling like the charcoal bricks and housing materials could also help and encourage recyclers.

On collection the researcher recommends that act of devolving waste collection to the divisions and sub-counties which lack enough funds to carry out this task should be abandoned and reclaimed by central government and the city governing authorities like Kampala Capital City Authority. Also it is recommended that the private contracted companies and divisions can employ other methods of collection like self-delivery where the generators of the waste deliver the waste directly to disposal sites or transfer stations, or hire third-party operators.

The researcher recommends that the State should provide peaceful, secure and stable political environment which is necessary for economic development. Similarly the State should promote sustainable development and public awareness of the need to manage land, air and water resources in a balanced and sustainable manner for the present and future generations. The utilization of the natural resources of Uganda shall be managed in such a way as to meet the development and environmental needs of present and future generations of Ugandans; and, in particular, the State should take all possible measures to prevent or minimize damage and destruction to land, air and water resources resulting from pollution or other causes. The State shall promote and implement energy policies that will ensure that peoples basic needs and those of environmental preservation are met. The State, Including local governments, shall (a) create and develop parks, reserves and recreation areas and ensure the conservation of natural reset (s), (h) promote the rational use of natural resources as to safeguard and protect the biodiversity of Uganda

It is the duty of every citizen to create and protect a clean and healthy environment and every Ugandan has a right to a clean and healthy environment. Subject to the provisions of the Constitution, the functions and services specified in the Sixth Schedule to this Constitution shall be the responsibility of the Government and these are Land, mines, mineral and water resources and the environment. The Parliament shall, by law, provide for measures intended (a) to protect

and preserve the environment from abuse, pollution and degradation; (b) to manage the environment for sustainable development; and (c) to promote environmental awareness.

The Ministry of Water and Environment is committed to avoiding, minimizing, and mitigating adverse environmental and social impacts associated with its projects, as well as adopting a gender-sensitive and gender-equitable approach for all its projects. The Ministry is also committed to ensuring transparency and accessibility of information, in addition to facilitating the resolution of disputes. With respect to environmental and social risks and gender considerations

The study recommends that the Ministry of Water and Environment (MWE) should have the responsibility for setting national policies and standards, managing and regulating water resources and determining priorities for water development and management. It also monitors and evaluates sector development programs to keep track of their performance, efficiency and effectiveness in service delivery. MWE has three directorates: Directorate of Water Resources Management (DWRM), Directorate of Water Development (DWD) and the Directorate of Environmental Affairs (DEA).

5.3 Conclusion

As already seen and noted that waste left unattended poses a dangerous risk to the environment and where as there is a legal and instructional framework in place there is need to revise this framework to meet the demands presented by the ever-increasing accumulation of wastes in cities across the country. Alternatives like reuse, reduction, and recycle among others can be employed to assist curb down this menace of waste accumulation and help greatly in the management of waste across Uganda.

It is an offence for a person who deposits hazardous waste on his or her premises or on private property, on a public street, roadside, or in a ditch, river, stream, lake, pond, canal, channel, park, gulch, ravine, excavation, or other place commits the offence of aggravated littering and is liable,

on conviction to a fine not exceeding five thousand currency points or imprisonment not exceeding ten years, or both. The Act extends producer responsibility and product stewardship by requiring that a person who develops, manufactures or processes any product shall minimize the waste generated from the production processes by adopting the following measures (a) improvement of production processes; (b) monitoring the product cycle from beginning to end; and (c) incorporating measures and technologies that deliver the best overall environmental outcome in the design and disposal of a product

National environment management authority functions to regulate environmental practitioners in the environmental and social impact assessment and environmental audit processes; (i) to review and make decisions on environmental and social impact assessments, environmental audits and other studies or reports submitted in accordance with this Act or any other applicable law; (j) to issue permits and licenses in accordance with this Act and any other applicable law; (k) to undertake and coordinate environmental monitoring, inspections and compliance audits; and (l) to undertake and support research in innovations, new technologies and emerging issues on environment.

The Authority shall not permit the export of waste (a) to a country which has prohibited the import of such waste with notification to Uganda; (b) to a country which has not prohibited the import of waste, except with the written consent of that country to the specific import; or (c) if the Authority has reason to believe that the waste in question will not be managed in an environmentally sound manner.

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