

UNIVERSITY OF NAIROBI

SCHOOL OF LAW

**PROHIBITION OF PLASTICS IN KENYA: MOVING TOWARDS A
CONSTITUTIONALLY COMPLIANT GOVERNANCE REGIME FOR SINGLE-USE
PLASTICS**

UNIT CODE: GPR 699

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of Master of Laws of the University of Nairobi.*

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DECLARATION

I **LEONIDA KATUNGE KING'OLA**, declare that this is my original work and has not been presented for the award of a degree or any other award in any other university. Where works by other people have been used, references have been provided.

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DEDICATION

This thesis is dedicated to my lovely dad Francis Kisingo and mum Clementine Kalekye who from childhood taught me on the importance of a clean and healthy environment. Dad and mum you are a source of great inspiration. May we endeavor to conserve the environment for you and the future generation!

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At the completion of this thesis, I wish to express my sincere gratitude to all those who have helped me in this endeavor. I extend my profound gratitude to the Sisters of St. Joseph Mombasa who have always stood by my side and constantly demonstrated a keen interest in my studies and life, accompanying me with words and support.

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ABSTRACT

The topic for this research is ‘*Prohibition of Plastics in Kenya: Moving towards a Constitutionally Compliant Governance Regime for Single-Use Plastics*’. The work is divided into five chapters with the overall objective aimed at making proposals on the move towards a constitutionally compliant governance regime for single use plastics. This is with an aim of attaining a clean and healthy environment which is a constitutional right.

The research is based on the Theories of planned Behaviour and The Circular Economy Approach which both point towards change of behaviour and attitude towards the environment more so the disposal of plastics.

The research methodology adopted is doctrinal and so largely qualitative. Desktop review of existing laws, policies and case laws from the Internet, Kenya Law reports, NEMA, Ministry of Environment and Forestry as well as journals.

The research examines the prevalence of pollution by plastics and more specifically the single use plastics in Kenya and the regulatory (law, policies and institutional) framework governing the manufacture, import, use and disposal of single use plastics in Kenya as well as the finding from the study. It makes proposals that will eventually be of use in the ‘war against’ the ban of plastics and in the creation of awareness among the citizens on the dangers posed by the plastics to the environment, human health and animal health. All these aimed at attaining to a clean and healthy environment which is a constitutional right for all Kenyan’s.

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ABBREVIATIONS AND ACRONYMS

3 R's - Reduce, Re-use, and Recycle

AFP- Agence France-Presse

CBA - Cost Benefit Analysis

CBD - Central Business District

CBS - Central Bureau of Statistics

CoK – The Constitution of Kenya, 2010.

EAC - East Africa Community

EALA - East African Legislative Assembly

EIA - Environmental Impact Assessment

EMCA - Environmental Management and Control Act

eKLR- Electronic Kenya Law Reports

EPR- Extended Producer Responsibility

ETC - Etcetera

EU - European Union

IATA - International Air Transport Association

ICAO - International Civil Aviation Organization

i.e. - That Is

IIIEE-International Institute for Industrial Environmental Economics

IIOAB-Institute of Integrated Omic and Applied Biotechnology

IJ-International Journal

IJAR-International Journal of Advanced Research

IPEP - International POPs Elimination Project

IPRJB-International peer reviewed Journal and Book Publishing

JES-Journal of Economics and Statistics

JESP-Journal of Experimental Social Psychology

KAM - Kenya Association of Manufacturers

LCA-Life Cycle Assessment

MPRA- Munich Personal RePEc Archive

NEAP - National Environmental Action Plan

NEMA - National Environmental Management Authority

NET- National Environmental Tribunal

NRT-National Round Table

PET-Poly Ethylene Terephthalate

PLA- Poly-lactic Acid

PLoS-Public Library of Science

PS-Poly Styrene

REMA-Rwanda Environmental Management Authority

SUPs-Single Use Plastics.

SWM - Solid Waste Management

TPB-Theory of Planned Behaviour

UN - United Nations

UNEP - United Nations Environmental Programme

USAID - United States Agency for International Development

WHO -World Health Organization

CHAPTER ONE: BACKGROUND OF THE STUDY

1.0 INTRODUCTION

Plastics are materials made from crude oil and they have emerged as one of the most successful commercial products worldwide in recent times.¹ They are mostly used by consumers and retailers due to the fact that they are lightweight, cheap, and easy way of transporting food and goods.² The plastic materials are malleable, cheap and come in different shapes, colour and sizes. Ninety-nine percent of plastics used globally follow the cradle to grave cycle.³

According to a study by UNEP on plastics it was observed that ‘most plastics do not decompose.’ Rather they break into small fragments called micro-plastics. Studies suggest that plastic bags and containers made of expanded polystyrene foam (commonly referred to as “Styrofoam”) can take up to thousands of years to decompose, contaminating soil and water.⁴

Of the different types of plastics, one which is commonly used is the single-use plastics (SUPs). These plastics are disposed immediately after use because they serve only one purpose.⁵ They include; plastic drinking bottles, bottle caps, food wrappers, plastic grocery bags, plastic lids cigarette butts, straws and stirrers, among others.⁶

¹ Michiel Roscam, ‘Plastic Soup: An Atlas of Ocean Pollution’, (Island Press, Washington, 2019) p.5.

² Girum Bahri, ‘Sustainable Management of Plastic Bag Waste the Case of Nairobi, Kenya’(Msc. Thesis, The International Institute for Industrial Environmental Economics, University of Lund, Sweden, 2005) p.12.

³ Santosh Madival et al., ‘Assessment of the Environmental Profile of PLA, PET and PS Clamshell Containers using LCA Methodology’, (J Clean Prod 17(13):1183–1194) <<https://doi.org/10.1016/j.jclepro.2009.03.015>> accessed 21 September 2019). The cradle is where life starts, and, of course, the grave is where it ends. The term ‘cradle to grave’ is used in reference to a firm's perspective on the environmental impact created by their products or activities from the beginning of its life cycle to its end or disposal.

⁴United Nations Environmental Programme (UNEP) ‘Single-Use Plastics: A Roadmap for Sustainability’(2018)vi<https://wedocs.unep.org/bitstream/handle/20.500.11822/25496/singleUsePlastic_sustainability.pdf?isAllowed=y&sequence=1> accessed 18 September 2019.

⁵Single-use plastics are the plastics that are used only once and disposed off. The terms “single-use plastics” and “disposable plastics” are used interchangeably in this paper.

⁶ UNEP, Single-Use Plastics: A Roadmap for Sustainability’ Single-Use Plastics: A Roadmap for Sustainability, p.vii.

The key problem addressed by this research paper is the inadequate modes of disposal for single use plastics, which results in adverse environmental impacts as these plastics are a major cause of pollution to the land, water, air and they affect human life, plant life and animal health.⁷

Internationally, there are some countries that have made major strides towards achieving an effective governance system for single-use plastics. For instance, in the 1990s, the major cause of littering in the towns, coastline and countryside in Ireland was caused by plastics.⁸ In 2002 Ireland introduced the ‘bag tax’ and this resulted to a 90% drop in plastic usage. In 2007, the use of plastic increased leading to an increase in the plastic bags.⁹

The EU Plastic Bag Directives of 2019 indicates that member states should reduce plastic bags consumption with a thickness below 30 microns and see to it that by the end of 2019. less than 90 bags are used per person per annum. According to the EU Plastic Bags Directive, member States of the European Union should adopt measures to cut the consumption of plastic bags with a thickness below 50 microns in thickness.¹⁰ In March, 2019 the European Union voted to ban single-use plastic straws, cutlery, and other disposable items from 2021. The E.U. member states will also have to achieve a 90% collection target for plastic bottles by 2029.¹¹

⁷ Bakari Kiango, ‘Tanzania Government Issues Guideline For Execution Of Plastic Bags Ban’ *The Citizen*, (Nairobi 24 May 2019) < <https://www.thecitizen.co.tz/news/Tanzania-government-issues-guideline-for-execution-of/1840340-5129890-16m6nv/index.html> > accessed 18 September 2019.

⁸ UNEP, *Single-Use Plastics*, p.1.

⁹ Ardern, Poll, ‘Should Ireland ban the use of single-use plastic bags entirely’ (10 August 2018) <<https://www.thejournal.ie/poll-plastic-bags-ban-4173297-Aug2018/>> accessed 13 November 2018.

¹⁰ UNEP, *Single-Use Plastics*, p.47.

¹¹ Hillary Leung, ‘European Union Sets Standard With Ban on Single-Use Plastics by 2021’ (The World Environment) (March 28 2019) <<https://time.com/5560105/european-union-plastic-ban/>> accessed 18 September 2019.

Plastics were introduced in Africa just one generation ago but after the introduction, there are reports that despite the advantages attached to them, plastics have become the major cause of pollution to the sea, land, human life animal life, etc. at an alarming rate. This has led many countries like Rwanda, South Africa, Kenya, Eritrea and recently Tanzania to impose a ban on the use of plastics.

Rwanda for example functions as an interesting case. It issued a National ban of plastics in 2008 on the manufacturing, importation, use, and sale of polyethylene bags. In the first phase the ban resulted in a black market for plastic bags.¹² To curb this problem there was a call from Kenyan leaders calling on the five neighboring countries to enact bans on plastic bags and also the East African Region to prohibit the use of plastics in these countries. The law is strict in the sense that it prohibits the production, use and sale of plastics.¹³ According to some Rwandan authors like Kardish, ‘the law has proved itself to be efficient in many ways, partially by making Rwanda a cleaner country’.¹⁴

According to a report by UNEP, South Africa, in 2003, introduced a prohibition on the use of SUPs which were below 30 microns thick. The regulation also introduced nominal levy on retailers. This levy was reduced after three months because of pressure from plastic bag producers.

A non-profit company was established with the mandate to promote waste minimization and recycling, create sustainable job opportunities in the plastic recycling industry and awareness

¹² UNEP, Single-Use Plastics, p.49.

¹³ Rwanda Environmental Management Authority, (2009) p.81-86.

¹⁴ Chris Kardish, ‘How Rwanda Became the World’s Unlikely Leader in Plastic Bag Bans’,(2014) <<http://www.governing.com/topics/transportation-infrastructure/gov-rwandaplasic-bag-ban.html>>accessed 5 May 2019.

initiatives.¹⁵ But the ban in South Africa has been ineffective due to lack of awareness with and limited consultations. Tanzania is the latest country where plastics carrier bags have been phased out. A prohibition just like in South Africa applies to the production, importation, sale and use of all single-use plastic bags.¹⁶ There are other countries like Cameroon, Eritrea, Morocco among other many African countries that have also banned the use of plastics with heavy fines imposed as penalties on those who use plastics.

In Kenya, through a Special Gazette Issue of the 14th March, 2017¹⁷ all plastic carrier bags and flat bags were banned. However, this directive excluded primary industrial packaging, and other plastics like the SUPs. Almost three (3) years after the ban of plastic carrier bags in Kenya, there seem to be some degree of improvement in terms of cleanliness on the streets and over the trees. After the ban, there has however been incidences where unscrupulous businessmen have been illegally importing the plastic bags especially those in border towns like Busia coming from Uganda. Kenya is not officially importing plastics but there are cartels and illegal importation which is making the ban on plastics not to take effect. The KAMs are not manufacturing the plastic carrier bags but there is a constant supply of these plastics imported from the neighboring countries and this remains a major challenge to the ban.

One can say that after the ban some eco-friendly bags were introduced but the materials used to make them is not the best quality hence wearing out so fast. This is the reason why NEMA issued a notice to prohibit all non-woven bags which KAM objected to. Early this year, NEMA

¹⁵ UNEP, *Single-Use Plastics*, p.50.

¹⁶AFP, 'Tanzania Bans Plastic Bags to Clean up Environment' (*Reuters* 1 June 2019) <<https://www.dw.com/en/tanzania-bans-plastic-bags-to-clean-up-environment/a-49003120>> accessed 18 September 2019.

¹⁷ Gazette Notice No. 2356 (28 April 2017).

issued a notice banning all non-woven bags, and the “eco-friendly” bags that replaced the flimsy bags in 2017 but this was blocked by the court after the manufacturers contested against it¹⁸. According to Leah Oyake, a former Environment County Executive for Nairobi City, substituting plastic bags with biodegradable ones is not workable simply because the tear strength of biodegradable packaging bag is low compared to their petrochemical plastics. These can absorb water and most of the developing countries cannot afford the technology of producing biodegradable plastics. They are also expensive.¹⁹

Attempts had been made by many States to curb the problem of plastics and the recent one is the United Nations Environmental Assembly session 4 (UNEA -4) which took place in March 2019²⁰, where several delegates made reference to Agenda 2030 for Sustainable Development (SD) as a framework for work on sustainable consumption and production; integrating sustainable consumption and production into national development and strategy frameworks; addressing plastic waste through the creation of demand for plastic substitutes; elaborating national road maps that stressed plastic and plastic waste and better plastic waste tracking systems.²¹ The UNEA-4 resolutions also stress on ‘the need for enhanced action for the reduction of single-use plastics and reversal of marine plastic pollution worldwide, which must be coupled with much-needed innovative, affordable and ecological alternative materials’.²² This much needed innovation is what calls for the sustainable management of plastic wastes as well.

¹⁸ Kenya Association of Manufacturers Versus Cabinet Secretary, Ministry of Environment and Natural Resources and Others [2017]eKLR.

¹⁹ Leah Oyake-Ombis, ‘Kenya Should be Focused on Recycling, not Banning Plastic Bags’ (*The Conversation*) (July 4, 2017) <http://theconversation.com/kenya-should-be-focused-on-recycling-not-banning-plastic-bags-79679> accessed 18 September 2019.

²⁰ United Nations Environment Assembly of the United Nations Environment Programme Fourth session Nairobi, UNEP/EA.4/, (11–15 March 2019) Resolution 9.

²¹ *Ibid*, Resolution 21. See also Sustainable Development Goals, 12.

²² *Ibid*, Resolution 9.

Agenda 2030 for SDG Article 12 focus on ‘Responsible production and consumption’ and the targets of Goal 12 include using eco-friendly production methods and reducing the amount of waste. By 2030, national recycling rates should increase, as measured in tonnes of material recycled. This is what UNEA-4 resolution 21 focused on. The plastic ban is one of the examples of how governments wishes to help achieve the (SDGs). Furthermore, on that, the COK Article 10 on National values and principles of governance echoes sustainable development as one of the national value that has to be upheld by all.

Sustainable Development (SD) is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. Seen as the guiding principle for long-term global development, SD consists of three pillars: social, economic development and environmental protection. This environmental protection is reflected in the CoK Article 69(2) which states that; every person has a duty to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.

It is clear that there is a need of approaching SD from the socio-economic, political and ecological sense in the ‘war against’ plastics if at all the SD goals will be achieved especially SDG 12.

Sustainability in the context of management of Single use plastics calls for the use of measures that will balance the political, environmental and socio-economic interests of all stakeholders. The National Environmental Tribunal (NET), spoke to the importance of an EIA, an important legal and scientific tool for ensuring the development activities are sustainable, in the case of *Save Lamu & Others v NEMA & Amu Power*. According to their view, an EIA is a process meant to assist at ensuring that the interests of all stakeholders are taken into consideration without

compromising any of them. But, environmental harm is likely to occur, the ‘precautionary principle’ demands that priority is given to environmental protection.²³

Unfortunately, the ban of plastics is not constitutionally compliant and fails to align to the demands of SDG 12 and Articles 10, 69 (2) which in turn violates the right to a clean and healthy environment as enshrined under Article 42 of the CoK 2010. First, the ban is non-compliant to the extent that it exempted only plastic carrier bags but not the SUPs which are commonly used. The ban also lacks specificity on the chemical composition of the substitutes to the plastic carrier bags which threaten the environment. It appears that the interests of manufacturers, consumers and the environment have not been well balanced because the ban focuses more on penalties as opposed to the prohibition of SUPs.

At UNEA-4 in 2019 held in Nairobi focus was on the life cycle approach which involves ‘understanding and reducing the environmental/material identifying inputs and their impacts throughout the entire life cycle of a product, technology, or process’.²⁴ Basically this shifts the focus from cradle to grave to a circular approach. The circular approach requires the manufacturers to design products to be reusable after the main purpose of the manufacturing of the product has been achieved. This approach incorporates the concept of circular economic activities by introducing a circular economy model with two types of economic resources: “a polluting input, and a recyclable input.”²⁵ Several scholars have written on the Circular economy and some like Julian Kirchherr, Denise Reike and Marko Hekkert state that this model is

²³ *Save Lamu & 5 others v National Environmental Management Authority (NEMA) & another [2019] eKLR*

²⁴ Environment and the Economy, ‘Life Cycle Approaches to Sustainable Development’, (NRT, 2017) <http://nrt-trn.ca/reference-2-life-cycle-approaches> accessed on 18 September 2019.

²⁵ George Donald, Brian Lin , and Yunmin Chen ‘A Circular Economy Model of Economic Growth’ (Environmental Model Software 2015) 73, p.60–63.

frequently defined as a combination of reducing, reusing and recycling activities (3Rs).²⁶ The 3Rs concept has become common place in many national waste regulations all over the world and this approach is key in our study and will be discussed under the theoretical framework.

1.2 STATEMENT OF PROBLEM

The Nordic Council of Ministers stated that ,‘much of today’s plastic waste comes from single-use plastic which are the major source of pollution today especially in marine life [and] most of the states have banned plastics but are still using the SUPs which have contributed to high levels of pollution’.²⁷This level of pollution by plastics, including single-use plastics in Kenya should have been clearly addressed through the legal prohibition (ban) on plastic carrier bags in 2017 which was not. The question posed by this research paper is whether this is sufficient, taking into account that plastics pollution interferes with the entire system of human and animal life.

CoK sets sufficient foundation for prevention of pollution in Kenya through the right to a clean environment, and the binding principle of sustainable development in article 10. In addition, implementing the right to a clean environment as stipulated in article 69(1)(g) introduces the polluter pays principle by requiring Kenya to eradicate processes and actions that are likely to endanger the environment. Single-use plastics, such as plastic water bottles, plastic drinking straws, and cutlery come from manufacturing, are utilized once and disposed. Kenya does not have a sanitary landfill, and so the plastics end up in dumpsite, or being burnt causing extensive air pollution. This is a typical ‘cradle to grave’ approach that does not solve the problem. Kenya

²⁶Julian Kirchherr, Denise Reike and Marko Hekkert, ‘Conceptualizing the circular economy: An analysis of 114 definitions. Resources, Conservation and Recycling’< <https://doi.org/10.1016/j.resconrec.2017.09.005> > accessed 12 July 2019.

²⁷ Nordic Ministers for the Environment, ‘Nordic Programme to Reduce the Environmental Impact of Plastic’ (Copenhagen 2017) p.10.

needs to apply the constitutional obligation to protect a clean environment through elimination of harmful environmental practices by adopting and implementing a circular economic approach to single use plastics through innovation that requires use of eco-innovation in source materials to make alternatives that have a sustainable life cycle, with a longer life, and could be recycled, instead of being disposed after use. This would be in line with the obligation in article 10 and 69(2) of the Constitution that creates a duty to work towards ecologically sustainable development, in order to fulfil the right to a clean environment.

This right cannot be attained in an environment where pollution by single-use plastics continued unabated. This research paper argues that while it was a good start, the current legal prohibition of plastic carrier bags in Kenya does not rise to the high threshold set by the Constitution. For this reason, this paper explores what mechanisms can be put in place to meet the call of the Constitution in the protection of human rights to a clean environment and comply with the requirement that sustainable development is mandatory in such decisions.

1.3 OBJECTIVES OF THE STUDY

This research paper is guided by the following objectives:

- i. To examine the prevalence of pollution by single use plastics in Kenya
- ii. To analyse the regulatory (law, policies and institutions) framework governing the production, importation, use and disposal of single use plastics in Kenya
- iii. To examine the challenges, gaps, successes and innovations in the regulatory framework governing the manufacture, import, use and disposal of single use plastics in Kenya
- iv. To provide proposals and recommendations towards a constitutionally compliant regime for single use plastics that promotes sustainable production and consumption

.4 RESEARCH QUESTIONS

This study seeks to answer the following questions:

- i. How is the prevalence of single use Plastics in Kenya?
- ii. What are the regulatory frameworks governing the manufacturing, import, use and disposal of single use plastics in Kenya?
- iii. What are the challenges, gaps, successes and innovations in the regulatory framework governing the manufacturing, import, use and disposal of single use plastics in Kenya?
- iv. What proposals and recommendations can be given towards a constitutionally compliant regime for single use plastics that promotes sustainable production and consumption

1.5 JUSTIFICATION OF THE STUDY

Access to a clean and healthy environment is a human right. The targets of Sustainable Development Goal 12 include using eco-friendly production methods and reducing the amount of waste. The national recycling rates should rise by the year 2030 and companies should opt for sustainable practices. Clean and healthy environment is one of the constitutional rights and if abused then the courts have to take action. To achieve this goal, the law makers should strive towards inclusion of all what it takes to have a clean environment and one of them is the regulation and laws on single use plastics more on the chemical compositions they contain and how to dispose them. The broad acceptance of the SDG 12 is matched by a general consensus on a range of developmental issues, including the need for a constitutionally compliant governance regime for SUPs which is not considered at all.

It is time that all Kenyans get to think seriously about the effects posed by plastic waste and more specifically SUP on our environment. If the SUPs should be manufactured, then they

should be of a good quality that can last for long and so be re-used or even recycled other than disposing of after a single use. Michael Braungart and William Mc Donough once wrote that ‘there is pressure on nature to rejuvenate at a rate it cannot sustain’.²⁸ From the above, this research is essentially meant to contribute to the ongoing endeavors in Africa and Kenya in particular in the move towards a constitutionally compliant governance regime for single use plastics. There is need of the laws of Kenya to address the effects to the environment that are caused by the SUP’s which seem to be accepted by the society despite the harm they cause to the environment.

The findings from this study will be key in the process of attaining the goals of a zero free plastic in Kenya. This is long overdue even after President Uhuru Kenyatta in Vancouver in Canada in May declared that by 5, June 2020 Kenya will ban SUPs.²⁹ This study will make some recommendations and proposals towards a constitutionally compliant governance regime for single-use plastics. The Ministry of Environment and other stakeholders may also use these findings in formulating policies relevant to the constitutional compliance to the governance regime towards the single use plastics.

1.6 SCOPE AND DELIMITATIONS

The study is limited to the legal and institutional frameworks that regulate the rights to a clean and healthy environment. The key document is the Constitution and EMCA from which the public institutions will derive their powers and obligations. Given the situation on the pollution

²⁸ Michael Braungart and William Mc Donough, ‘Cradle to Cradle: Remaking the Way We Make Things’ (New York: North Point Press 2008) p.18.

²⁹Peter Sawa, ‘President Uhuru Announces Ban on Single-Use Plastics in Protected Areas’ (*East African Standard* 5Jun 2019)<<https://www.standardmedia.co.ke/article/2001328629/president-uhuru-announces-ban-on-single-use-plastics-in-protected-areas>> accessed 12 July 2019.

occasioned by the SUPs there is a need of examining the regulations in place so as to attain goals on sustainable development in Kenya.

1.7 ASSUMPTIONS

This research takes to task the search for ways of disposing SUP's and participation of Kenyans in reducing, reusing and recycling of SUP's. The researcher is keen on the role human behaviour plays on single use plastic waste management and consequently develops the assumptions stated below:

- i. Kenyan residents can manage to create ways and channels to sustainable use of single use plastic waste management.
- ii. If Kenya enacts laws that govern the manufacturing, use, import and disposal of SUP's then a clean and healthy environment will be achieved.

1.8 THEORETICAL FRAMEWORK

This study has employed two different theories. The first one is the circular economy approach and the second one is the theory of planned behaviour. These two theories will be discussed in this part of our study with view of examining how the two could lead to a constitutionally compliant governance regime for single use plastics.

1.8.1 The Circular Economy Approach

The first theory that will be applied in this study is the Circular economy approach, which was presented by George Donald, Brain Chi-ang Lin and Yunmin Chen. According to them the manufacturers design products to be reusable after the main purpose of the manufacturing of the product has been achieved. This approach incorporates the concept of circular economic

activities by constructing a circular economy model with two types of economic resources: “a polluting input, and a recyclable input.”³⁰ This is opposed to the linear approach which involves production, distribution, use and disposal. Unfortunately, Kenya has a linear approach where she produces single use plastics, distributes, uses, disposes and finally litters. This has been the norm in this country. Some reduction has been achieved through policy measures such as bans³¹, restrictions, and taxes but this still seems not sufficient to curb the problem.

According to a study carried out by Balint Horvath, Edmund Mallinguh and Csaba Fogarassy, on plastics, they stated that ‘in managing plastic waste, the greatest challenge in the country has been the end-of-life-cycle stage. Most of the waste from the public and industrial/private sector is managed formally by county environmental departments through the collection, disposal in designated places, and incineration. The linear business models result in many environmental challenges as resources become depleted, ending up as waste and emission since they rely on virgin resources’.³²

Various studies and models on how to prolong life span, re-use and recycle SUP’s products, more so at the end-of-life stage have been introduced but the model we propose is the circular economy which is frequently defined as a combination of reduction, re-use and recycling activities.³³ The 3R concept has become commonplace in many national waste regulations all over the world.

³⁰ George Donald, Lin Brain, and Chen Yunmin, ‘A Circular Economy Model of Economic Growth’, p.3.

³¹NEMA, ‘The Ban of Plastics in Kenya’ (27th August 2017) < http://www.nema.go.ke/index.php?option=com_content&view=article&id=102&Itemid=120 > accessed 12 August 2019.

³² Balint Horvath, Edmund Mallinguh and Csaba Fogarassy, ‘Designing Business Solutions for Plastic Waste Management to Enhance Circular Transitions in Kenya’, (MDPI -Sustainability 2018) < file:///C:/sustainability-10-01664-1.pdf > accessed 9 May 2019.

³³ Kirchherr J, Reike D and Hekkert M, (n 26), tep.221–232.

The Circular models based on the production and the re-use bring about cost savings associated with the reductions in the environmental pollution; of which the models are a potential method for industries or companies to profitably achieve an increase in resource productivity. Unfortunately, there is a key challenge in that some plastics are not suitable for recycling hence the need for segregation which may be a hard task for Kenyans. To curb this limitation, EMCA states ‘The Cabinet Secretary shall, on the recommendation of the Authority ‘issue regulations for the handling, transportation, storage, segregation and destruction of any waste’.³⁴ Then segregation comes in where the plastics which are not suitable for recycling will be segregated from the rest of the plastic wastes. This will require some policies and more so behaviour change where after use, they are kept separately.

Despite the limitations, it seems that the circular economy is a feasible, viable and cannot be an unavoidable alternative which is capable to cope with the challenges. We agree with Furkan Sariatli who states that “The collection of concepts composing the circular economy enables reducing the waste by incorporating reusing the waste components for a different or same purpose”.³⁵

1.8.2. Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) is also employed in this study as a framework in understanding, explaining and predicting the behaviours of the human beings towards the environment and more so on the disposal of SUP wastes. This theory was realized by Ajzen Icek in 1988. This theory is based on the assumptions that the individual’s behavioural intentions are

³⁴ EMCA, Section 86(4)

³⁵ Furkan Sariatli, ‘Linear Economy Versus Circular Economy: A Comparative and Analyzer Study for Optimization of Economy for Sustainability’, 2017<https://www.researchgate.net/publication/318183876_Linear_Economy_Versus_Circular_Economy_A_Comparativ_e_and_Analyzer_Study_for_Optimization_of_Economy_for_Sustainability> accessed 9 May 2019.

directly associated with their attitudes. It also claims that human behaviour is best examined when activities participated in are voluntary and under the individuals own control.³⁶

The theory is a development from the Theory of Reasoned Action (TRA), developed by Martin Fishbein and Ajzen Icek in late 1960's. The theory of planned behaviour views a person's determination as influenced by an individual's attitude, social support and perceived behavioural control.³⁷The theory envisages behaviour and proposes intervention to change behaviour related to an action.³⁸ This theory helps one understand ones situation, explain the predicament and come up with a solution that is useful for intervention to change the behaviour.³⁹

The theory, therefore is useful to predict the precise behaviour in relation to users' awareness in sound disposal of plastic wastes. Many Kenyans through other countries examples are coming up with solutions that may enhance awareness and help the various stakeholders to come up with regulation's that will ensure sound disposal of SUPs. In the statement of the problem it was stated that "there is a need of a change in behaviour and attitudes towards the disposal of plastic wastes and other plastic utensils, and promoting the production and use of environmentally friendly alternatives". Hence the need of a change in the lifestyle of all if sustainable use of SUP will be achieved not only in Kenya and the world.

Nevertheless, despite the usefulness of this theory, there are various shortcomings attributed to this theory. The key limitation of this theory in relation to our research is that 'it does not take into account other variables that factor in behavioural motivation and intention like threat, fear,

³⁶ Ajzen Icek, 'From Intentions to Actions: A Theory of Planned Behaviour' in Julius. Kuhl and Jürgen Beckham (eds), *Action Control: From Cognition to Behaviour* (Springer-Verlag 1985) pp.10-40.

³⁷ Ajzen Icek , 'Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior', (Journal of Applied Social Psychology 2002) p.665.

³⁸ Ajzen Icek, and Thomas Madden , 'Prediction of Goal-Directed Behaviour: Attitude, Intentions, and Perceived Behavioural Control' (Journal of Experimental Social Psychology 1986) pp.453-474.

³⁹ Ibid, p.475.

moods and past experience' This will be witnessed in cases where people change their behaviour only to please those in power and the enforcers of the laws. There is an assumption that a person has acquired the opportunities and resources to be successful in performing the desired behaviour, regardless of the intention.

The experiences that some of the Kenyans, especially those who have had chances to travel to places like Europe and America, have seen how proper disposal of wastes is a norm. However, upon returning home, they are influenced and slide back to the bad behaviour. In this regard, this theory may not work well in Kenya.

Nevertheless, to curb the limitations, there is need of laws and policies prohibiting the manufacturing, use of SUPs or even the recycling of same for other uses other than what it had been manufactured for.⁴⁰

The above theories will be only effective if at all stakeholders will follow the proposals that we will make at the end of this study in relation to the management of plastics in Kenya. From the two theories proposed, it is clear that Kenyans have a 'throw away culture' without taking into consideration the effects of the same wastes disposed irresponsibly. It may also be said that the circular approach will be very key in this study as all plastic waste products especially the SUP which will not only be disposed but the 3 R's will apply to make maximum use of the products. Of importance is to note that there is a need to change the way of thought and behaviour for most Kenyans especially those in the urban centres who are the major consumers of plastics.

⁴⁰ Girum Bahri, 'Sustainable Management of Plastic Bag Waste the Case of Nairobi, Kenya, p.13.

1.9 RESEARCH METHODOLOGY

1.9.1 Research Methodology

According to Bernard Russell, “there are several research methods which include qualitative, quantitative and mixed methods.⁴¹ In this study the researcher will engage the qualitative research method where the study will explore ideas, opinions, themes, and phenomena through multiple data collection approaches.⁴² Specifically, in this study we will dwell more on library research where the researcher will endeavour to succinctly understand the underlying issues through open ended inquiry. Under this method, data is gathered, coded, categorized, and themed so that meaning can be drawn out of it.⁴³ Because of the research problem and purpose of this study, a qualitative research method was deemed suitable.

According to Sharam Merriam and Elizabeth Tisdell, “a qualitative research assesses rich and versatile data for better understanding of drivers of a phenomenon”⁴⁴ which in our case will be more of observation, library and internet sources. This research will not involve statistical data analysis, measuring variable to test a hypothesis, or evaluating a relationship which is aligned with quantitative research.

The approach to this study is analytical. It is based on desktop research which is contained in the literature review. The desk-based study will utilise both secondary and primary sources.⁴⁴ The primary sources utilised will be domestic, regional and international instruments which include Constitution of Kenya 2010, Environmental Management Coordination Act, 1999, Gazette Notices, The Environmental (Impact Assessment and Audit) Regulations 2003, Public Health

⁴¹ Harvey Bernard Russell, ‘Social Research Methods: Qualitative and Quantitative Approaches’ 2nd Ed (Los Angeles: Sage Publishers, 2013) p.68.

⁴² Ibid p.70.

⁴³ Ibid p.71.

⁴⁴ Sharan Merriam and Elizabeth Tisdell, ‘Qualitative Research: A Guide to Design and Implementation’ (New York: John Wiley and Sons 2015) p.56.

Act, Cap.242 and Water Act, Cap. 372, the Rwanda Environmental Management Coordination Authority 2013. The World Commission on Environment and Development (The Brundtland Report) of 1987 and the Rio Declaration and Agenda 21(United Nations Conference on the Environment and Development) 1992 will also be used for this study. Library and E-resources will be very key in this study and this will include commentaries, journal articles, and scholarly articles.

1.9.2 Research Design

The study is purely desktop research. This refers to what we call secondary data or data which is collected without fieldwork. This involves finding relevant data which already exists, as opposed to collecting your own information. This involved published statistics and reports which were certainly important sources. The term is also widened to include all sources of information that do not involve a field survey and this included searching from the internet and libraries.

The library materials were analysed objectively and in details to paint picture of the sustainability and management of plastics in Kenya. Desktop research was preferred because it is quick, cheap as well as an effective as most of the basic information could be easily fetched and this was used as benchmark in the research process.

Content analysis was used to examine the movement towards a constitutionally compliant governance for single use plastics, the regulatory (law, policies and institutions) framework governing plastics as well as the challenges, gaps, successes and innovations in the regulatory framework of the Single use plastics.

At the initial stages of this study, discussions were held with various experts in environmental conservation, law and research so as to identify the real issues to focus on. Based on the nature of the study, it was decided that a desktop research would bring out the critical issues.

There are basically two types of desktop research techniques i.e. internal desk research and external Desk research.

1.9.2.1 Internal Desk Research

This is the most reasonable starting point of research as much information could be generated internally from the subject of study. Account related information which indicates the type of wastes that are disposed, the quantity, the effects and possible mitigating factors and so on.

According to Prachi Juneja:

‘The main advantage in performing internal desk research is that it involves internal and existing organizational resources to organize the collected data in such a way that it is not only efficient but also usable. Internal desk research is comparatively very cheap and effective as internal resources are deputed and the expenditure in getting data from outside is less.’⁴⁵

1.9.2.2 External Desk Research

This is a research done outside the area of study but the collection of relevant information is vital. The outside resources include:

i) Online Desk Research

Several authors and researchers have carried out desktop research and according to Prachi Juneja

“there is incredible amount of data available online on internet and there could be two approaches for digging out the relevant information from internet, one is directly browsing the specific information from the relevant sites and extracting the information from same. Secondly, using the various search engines like www.google.com, www.yahoo.com, www.infoseek.go.com, www.altavista.com etc., for modulated searching”⁴⁶.

It is obvious that the key aspect in this research is to refine the techniques of research in such a way that results are of relevance to the study. It is necessary to know the importance of the

⁴⁵ Prachi Juneja, ‘Management Study Guide’, 2015 <<https://www.managementstudyguide.com/desk-research.html>> accessed 12 May 2019.

⁴⁶ Prachi Juneja, ‘Management Study Guide’, 2015.

research and follow the guideline intellectually to reduce the efforts made and time consumed in searching.

ii) Government published data

Much of our study is on the legal framework and institutional framework which all stem from government publications. The Government's institutes dealing with the care of the environment in Kenya have published a lot of information that is online and this can be used in this study. The available data is related to the manufacturing, use, handling and disposal of single use plastics in Kenya as well as the regulatory framework for the same. The government websites are free and easily accessed by all and they contain relevant, new and prominent information. Thus, this will be the easiest medium of gathering the information as well as the most accessible especially with the regulations and policies.

1.9.3 Ethical Consideration

The outcome of this study may be a source of challenge to those people whose livelihoods is dependent on the manufacturing, distribution, sale, and use of plastics. However, this study is on the constitutional compliant governance regime for SUP's and as such the said stakeholders will not be affected if compliance with the laid down regulations and laws will be followed. Nevertheless, constitutional compliance of the use of single use plastics will be a long term solution to the problem of the present generations in view of not compromising the future generations. This is what is called the *beneficence principle*.⁴⁷

⁴⁷ Matthew Adler , 'Well-Being and Fair Distribution: Beyond Cost-Benefit Analysis' (New York: Oxford University Press, 2010)12.

1.10 LITERATURE REVIEW

The review of literature has been undertaken based on the specific research objectives, as seen below:

1.10.1 Examination of the prevalence of pollution by single use plastics in Kenya

In a report by UNEP on Single-Use Plastics: A Roadmap for Sustainability, 2018, it was observed that Kenya imposed a punitive total prohibition of plastic carrier bags in 2017. Kenya did not ban single use plastics and these are the major causes of pollution. The UNEP report states that single-use plastics also called disposable plastics, are commonly used 'for plastic packaging and include items intended to be used only once before they are thrown away or recycled if they are ever recycled.'⁴⁸ These plastics include the plastic bottles, straws, cups and cutlery among others.

The SUPs end up being disposed of in the environment and are a major cause of littering and in part this is because of irresponsible individual's behavior. Kenya has also a very poor waste management systems and this too plays an enormous role in pollution. Due to people's negligence, the large presence of single-use plastics in the environment is symptomatic of poor or failing waste management systems. But in Kenya, SUP are not prohibited and they are a key cause of harm to the environment hence this study in order to address this key problem. This report does not deal much with the regulatory framework moving towards a constitutionally compliant governance regime for SUPs.

Leah Oyake, in her unpublished thesis 'Managing Plastic Waste in Urban Kenya: Niche Innovations in Production and Recycling,' states that, plastic bags have many advantages due to their variety as well as being cheap, but they present a number of challenges to the environment.

⁴⁸UNEP, Single-Use Plastics, p.2.

They are resistant to biodegradation and cause long-time pollution. Plastics too present a risk to human life, pollute the oceans, soil, and livestock. These disadvantages of plastics as opposed to the advantages has led several countries across the world to put in place various policy measures in managing plastic wastes, including a prohibition on the production of some types of plastics.⁴⁹ She further states that ‘about 4000 tons of SUPs bags are produced on a monthly basis with an estimated 2000 tons ending up in the municipal waste stream especially in the major cities. Most of these plastics produced have a thickness of less than 15 micron, and it is these bags that cause inadvertent litter and pose challenges to recycling’.⁵⁰

She does not however point out the gaps that exist in the law that address the issue of SUPs in relation to a call for a clean and healthy environment as a constitutional right which is our concern in this study.

Moses Ikiara, Anne Karanja and Theo Davies in ‘Collection, Transportation and Disposal of Urban Solid Waste in Nairobi’ noted that ‘‘negligence or lenience in law enforcement by urban Council contributes to littering behaviour in peri-urban areas.’’⁵¹ To this can be added the counties (formerly called city councils) by-laws, which have proved to be ineffective to prevent littering, unlawful dumping and open burning of waste.⁵² Actually, waste open dumping is not the only environmental burden due to waste mismanagement. The combustion of waste without any precaution generates also contaminants, increasing health risks to the population. Other factors include the low public awareness on the responsible disposal of plastic bag waste. This

⁴⁹ Leah Oyake, ‘Managing Plastic Waste in Urban Kenya: Niche Innovations in Production and Recycling’ (Unpublished Thesis, Wageningen University, 2012)159.

⁵⁰ Ibid.

⁵¹ Moses Ikiara, Anne Karanja, Theo Davies, ‘Collection, Transportation and Disposal of Urban Solid Waste in Nairobi’, In Issa Baud, Johan Post and Christine Furedy, (eds.), *Solid Waste Management and Recycling: Actors, Partnerships and Policies in Hyderabad, India and Nairobi, Kenya*, (Kluwer Academic Publishers, Dordrecht, 2004) 61.

⁵² Tue Goto, and Others, ‘Release of chlorinated, brominated and mixed halogenated dioxin-related compounds to soils from open burning of e-waste’ (Agbogbloshie-Accra, Ghana) 25 January 2016 (151-157).

has resulted in plastic carrier bag littering in open areas and affecting their recyclability. But from what these authors have stated, the law is in place according to the researcher, there seem to be lack of awareness hence the need to sensitize the public on the importance of the ban of plastics.

In an Article by ‘Be Wise Waste’ on Plastic wastes and its management, it stated that plastic seems all prevalent and unavoidable. Since the 1960s the use of plastic has increased dramatically, and consequently, the portion of garbage that is made up of plastic has also increased from 1% of the total municipal solid waste stream to approximately 13%.⁵³

But despite the fact that plastics have some recommendable advantages, there are doubts about possible options for reduction, re-use, recycling and disposal. The article goes further and states that there are difficulties such as the increasing number of additives used to alter the strength, flexibility, texture, resistance to microbes, and other characteristics of plastics, make plastics not recyclable. Moreover, there is very little market value in some plastics, leading countries to dumpsites or incinerate plastics as waste.⁵⁴

Salman Zafar in the article ‘How to Beat Plastic Pollution – Guide to Recycle Plastic for Further Usage’ states that in order to protect our environmental surroundings as well as to make the most of plastic material, recycling procedure is the best solution. Recycling means making new items out of waste material. But Salman states that when compared with many other materials such as metal and glass, recycling of plastic is complex and expensive.⁵⁵ It’s because of the high molecular body weight of the large polymer-bonded chains that make the plastic material. For

⁵³ European Commission on Environment, ‘Being wise with waste: The EU’s Approach to Waste Management’, (March 18 2019)16, < <https://ec.europa.eu/environment/waste/pdf/WASTE%20BROCHURE.pdf> > accessed 3 June 2019.

⁵⁴Being Wise with Taste, 18.

⁵⁵Salman Zafar , ‘How to Beat Plastic Pollution – Guide to Recycle Plastic for Further Usage, (Bio –Energy Consult, May 9 2019)<<https://www.bioenergyconsult.com/recycle-plastic/>>accessed 3 June 2019.

Emily Folk in 'Zero-Waste Trends in the United States' states that many people do not care after the collection of their solid wastes by the waste collectors. She further notes that most of this waste ends up in a dumpsite where it is mixed and buried with other decades-worth of junk. Some of the wastes will break down but others will remain there for decades hence causing pollution and littering of the environment.⁵⁶ But Emily Folk proposes that the non-re-usable wastes like plastics should be replaced with reusable plastics and this will lead to a circular use of these wastes. She gives options for the disposal of wastes like burning, recycling among others but all the same she says that there is disadvantage attributed to these methods like air pollution.

For Robert Sawyer, in Trends in Plastic Recycling, 're-use and re-cycling of plastics is gaining importance as a sustainable method for plastic waste disposal. Unfortunately, the key problem is the different types of plastics that have to be segregated so as to facilitate the recycling and this is not a culture known to many Kenyan's. A common problem with recycling plastics is that they are often made up of more than one kind of polymer or there may be some sort of fiber added to the plastic (a composite)'.⁵⁷

He further states that 'plastic consumption has increased at a tremendous rate over the past decades as plastics are now commonly used in modern times by all classes of people. Plastics are used in to manufacture a variety of products such as mobile phones, furniture items, protective packaging, lightweight and safety components in cars, insulation materials in buildings, domestic

⁵⁶ Emily Folk, 'Zero Waste Trends in the United States' (Bio Energy Consult March 23, 2019)< <https://www.bioenergyconsult.com/zero-waste-trends-in-united-states/>>accessed 9 September 2019.

⁵⁷ Robert Sawyer, 'Trends in Plastic Recycling', (March 25 2019)< <https://www.cleantechloops.com/recycling-of-plastics/>>accessed 10 September 2019.

appliances, medical devices etc. They are used simply because they are cheap to make and they can last a long time.⁵⁸

But despite the availability and safety in terms of use, the challenge posed by plastics in the pollution of the environment is well outlined by Sawyer when he states that ‘has emerged as a serious environmental challenge and its recycling is facing roadblocks due to their non-degradable nature. Plastic materials do not decompose biologically hence causing a rise in the amount of plastic waste in our surroundings’.⁵⁹

From the above authors, it is clear that plastics are important as they are less expensive and easy to handle. They also bring in the idea of recycling though pointing out that recycling plastics is more expensive than other waste materials. But they do not point out the gap and lacunae existing in the laws that regulate the management of plastics for a sustainable use hence this study which will look at the legal and institutional framework in the sustainable management of plastics.

1.10.2 Examination of the Regulatory (Law, Policies and Institutional) Framework

Governing Single Use Plastics in Kenya

Several laws have been implemented in the regulation of plastics in Kenya. In a special gazette notice issued on the 14th March 2017, the CS for environment issued a ban on the single carrier plastics which were being distributed in the supermarkets. Prior to that several laws and regulations had been issued in the regulation of the rights to a clean and health environment. The key one is the Constitution under Articles 42, 60 and 70 which speaks to environmental rights. EMCA also stipulates the same under section 3(2)(A) as well as section 86 which speaks of the

⁵⁸Ibid, p.23.

⁵⁹Ibid. 24.

handling, storage, transportation, segregation and destruction of any waste of which plastics are waste. Several scholars have studied these laws of which the key ones are:

The Constitution of Kenya 2010, Laws of Kenya, contains some Articles that point to the importance of clean environment. Article 42 of CoK 2010 provides for the right to a clean and healthy environment, which includes among others ‘the right to have the environment protected for the benefit of the present and as well as the future generations through numerous measures and obligations relating to the environment. The state as the duty bearer of this right invokes Article 69 (1) that provides for the obligations in respect to the environment. It shall guarantee sustainable exploitation, management, utilization and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefit.

Further, Article 70 obligates the state to enforce environmental rights by judicial means. This means if a person alleges that a right to a clean and healthy environment recognized and protected under Article 42 has been, is being or is likely to be denied, violated, infringed or threatened, the person may apply to a court for redress in addition to any other legal remedies that are available in respect to the same matter. But the constitution does not take into consideration the single use plastics which are the major causes of harm to the environment hence the key reason of this study. The question to ask is-with the prohibition of plastics in Kenya, how can we move towards a constitutionally compliant governance regime for single-use plastics?

The Environmental Management and Coordination Act (EMCA)1999 [Revised 2018] provides for the establishment of a suitable legal and institutional frameworks in the management of the environment. There are various legal interventions provided in EMCA, 2018 dealing with plastics wastes include sections 87(2)(a) and (b), 88(1), 91(4-5) for waste collectors. This calls

for the segregation of plastic waste where SUP should be recycled, re-used etc. However, EMCA does not speak particularly to the SUP hence the gap in law.

Ikiara, Moses in *Transportation and Disposal of Urban Solid Waste in Nairobi*, describes EMCA as a comprehensive attempt to deal with environmental legislation in Kenya for various reasons. Firstly, it allocates property rights to all citizens on various aspects of the environment, the most important being the right to clean environment. Secondly, it empowers citizens to prosecute environmental polluters, including indiscriminate solid waste dumpers, to pay for the damage or nuisance caused.

Lastly, it has empowered NEMA to formulate all environmental policies and laws of the country. However, Ikiara points out that NEMA has not yet managed to get to the mandates set as it has not established regional offices, set standards, acquire the required trained staff and facilities so as to function effectively. He also asserts that although EMCA has provisions for the use of economic instruments in environmental management, NEMA has not yet developed the required operational guidelines.⁶⁰

UNEP in a report 'Selection, Design and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya: The Case of Plastic Bags' 2005 noted that there are various types of plastics produced in Kenya which include hard plastics and flexibles. The category to which plastic shopping bags belong is the flexibles and can be either high density polyethylene (HDPE) or Low Density Polyethylene or LDPE. Others include the dry cleaning bags, garbage bags, plastic in store product bags, and other packaging. In Kenya, there are over 4000 tons produced of plastics produced monthly. UNEP states that despite the high production and use, there is a low level of re-use and recycling of post-consumption flexibles. Actually there are few

⁶⁰Moses Ikiara, Anne Karanja, Theo Davies, 'Collection, Transportation and Disposal of Urban Solid Waste in Nairobi, p.23.

alternatives to plastic shopping bags in the country. Shopping bags made from natural products are available but are rarely used because of the easy and free availability of plastic shopping bags in market, and the low price at which the plastic bags are sold in outdoor markets.

The UNEP does not state of the key challenges faced in the implementation of the plastic bags regulations in Kenya especially where these bags usage is become a tradition and also corruption that is so rampant at the Kenyan borders where people are still smuggling in plastic carrier bags in this country.⁶¹

Leah Kihuria in her research examined the ‘Legislative and Institutional Frameworks Governing Solid Waste Management in Kenya: Case of Plastic Bags in Nairobi’⁶². In her analysis, she agrees that Kenya has a wide range of laws and regulations which spell out the methods of solid waste management. However, in her view, despite the presence of legislative and institutional frameworks governing waste management, there is rampant littering and illegal dumping of plastic bag waste. She attributes this to factors such as population growth, lack of planning and informal settlements as well as inadequacies within institutional frameworks.

For Simeon Otulo in Impact of Poor Solid Waste Management in Kenya, he states that ‘EMCA allocates significant property rights to the citizens as far as various aspects of environmental management are concerned. The most important of these rights is that to a clean and healthy environment. The citizens have the rights too to compel polluters, including indiscriminate solid waste dumpers, to pay for the nuisance or damage caused. In reality, the cost of litigation in

⁶¹ UNEP, ‘Selection, Design and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya: The Case of Plastic Bags’, 2005, < <https://wedocs.unep.org/bitstream/handle/20.500.11822/8655/Selection-Design-Implementation-of-Economic-Instruments-Solid-Waste-Management-Kenya.pdf?sequence=3&isAllowed=y> >accessed 17 June 2019.

⁶² Kihuria Leah Wanjiku, ‘Legislative and Institutional Frameworks Governing Solid Waste Management In Kenya: Case of Plastic Bags In Nairobi’,(University of Nairobi, 2012)< <https://law-school.uonbi.ac.ke/index.php?q=node/1995> >accessed 20 September 2019.

terms of finances, time as well as the awareness itself makes it difficult for most of the citizens to exercise this right'.⁶³

This is despite the fact that there is a call to have a clean and healthy environment for all citizens as stipulated under the COK and EMCA among other legislations. Pollution from solid wastes more so the plastics is still rampant in Kenya.

According to Tilahun Nigatu Haregu and others in their work 'Assessment of the Evolution of Kenya's Solid Waste Management Policies and their Implementation in Nairobi and Mombasa: Analysis of Policies and Practices' Kenya's legal framework on the management of solid wastes such a plastic bags have slowly shifted from criminalizing actions and inactions to encouraging the use of best practices. They argue that, over the years, laws on solid waste management have become more specific and promoted the decentralization of responsibilities. They conclude that even through the legal framework is progressive, the management of solid remains a problem, particularly in the major cities like Nairobi and Mombasa because of weak institutional structures and capacity.

What the work of Tilahun fails to address are the drivers of poor solid waste management in other counties apart from Nairobi and Mombasa. The paper does not also compare the different circumstances of different counties in order to draw lessons from regions with best practices on solid waste management.

Aside from only concentrating the study within Nairobi, the author does not critically analyse the laws to identify any gaps and make recommendations on how to fill those gaps.

⁶³ Simeon Otulo, 'Impact of Poor Solid Waste Management in A Kenya', (Unpublished Thesis, University of Nairobi ,1999)19.

1.10.3 The Existing Challenges, Gaps, Successes and Innovations in the Regulatory Framework Governing Single Use Plastics in Kenya

Janet Larsen and Savina Venkova in their book 'The Downfall of the Plastic Bag: A Global Picture' state that over the last few years, plastic has taken over the planet. Plastic has been seen as a unique material, with beneficial uses ranging from medical devices to making vehicles lighter and more fuel efficient.⁶⁴ But the advantages are also coined to some disadvantages as the plastics are also a major cause to pollution to the environment, animals as well as water bodies.

Actually Larsen and Venkova state that: "many States around the world that have endeavoured to free themselves from their addictions by implementing bag prohibitions or fee. These states include Denmark which in 1993 issued regulations which affected all bag makers and actually there was an initial drop by 60 percent in the usage of plastic bags."⁶⁵ So was the same prohibition issued in Ireland and many countries actually have emulated the success of Ireland. The EU is actually looking forward to reducing plastic bag use by 60 percent by 2019.⁶⁶

Bedah Mengo, in the article 'Kenya Offers Citizens Alternatives to Plastic Bags ahead of Ban, 2017,' stated that one of the problems faced in the implementation of the prohibition of plastic bags use in Kenya, is that these bags have formed part and parcel of the lives of Kenyans. The citizens use them for various purposes like shopping, food packing (like milk and fruits), in building and construction etc. Consequently, forcing Kenyans to abandon the plastics remains a great challenge despite the heavy penalties imposed which are as high as 19,417 U.S. dollars and 38,834 dollars, a jail term of between one and two years, or both, the prohibition recommends.⁶⁷

⁶⁴Janet Larsen, and Savina Venkova, 'The Downfall of the Plastic Bag: A Global Picture' (Buenos Aires: Grist Publishers, 2014) 3-4.

⁶⁵ Ibid, 7.

⁶⁶ The European Parliament and the Council of the European Union enacted Directive (EU) 2015/720 of April 29 2015 on reducing the consumption of lightweight plastic carrier bags to reduce negative effects to the environment.

⁶⁷ Bedah Mengo, 'Kenya Offers Citizens Alternatives to Plastic Bags Ahead of Ban', (August 22 2017) http://www.xinhuanet.com/english/2017-08/22/c_136546779.htm> accessed 19 December 2018.

The alternative that was presented is also expensive as Kenyans are used to free plastic bags from the shops.

For Barnabas Bii, in an article in the Daily Nation, ‘*What Ban? Plastic Bags Trade still Thriving in Western Kenya Towns*’, noted that, “the banned plastic carrier bags are still in circulation in most parts of Western Kenya despite hefty penalties imposed by the government on individuals flouting the regulation...the traders said that unscrupulous government officials are involved in the illegal but lucrative business.”⁶⁸ Bii asserted that the plastic bags are in circulation in towns like Eldoret and the dealers have private arrangements with suppliers who deliver the carriers at designated points. NEMA is aware of this information but any efforts they try to arrest the brokers they are bribed.

Marshal Chase and Nandini Hampole in their book ‘Building Long Term Solutions: Retail Shopping Bag Impacts and Options’ affirms that plastic carrier bags are a key part of retail brand identity. However, there are mounting consumer awareness and government concern about the environmental impacts of these bags hence the need to work toward a more sustainable alternative over long term. They highlight on the current legislation and voluntary initiatives to bring about change in consumer behaviour vis-à-vis retail bags.⁶⁹ There is a need to change the retailers view of the plastics in relation to the use and recycling. But of essence is the change in behaviour when it pertains to the disposal of plastics after use and even a way forward to recycling of the used plastics.

⁶⁸ Barnabas Bii, ‘What Ban? Plastic Bags Trade Still Thriving in Western Kenya Towns’, (4 December 2018) (https://www.google.it/url?sa=i&source=web&cd=&ved=2ahUKEwiTvqKfldvfAhVmx4UKHXOBD2YQzPwBegQIm92_mgLgiSh&ust=1546933164317618>accessed 5 January 2019.

⁶⁹ Marshal Chase and Nandini Hampole, ‘Building Long Term Solutions: Retail Shopping Bag Impacts and Options’ (Basel: BSR Publishers, 2010) 4.

The scholars above have however, not stated how to measure the effectiveness of the regulation in place hence the researcher's zeal to see to the effectiveness of the regulations in place. More so on the way forward towards attaining a constitutionally compliant governance regime for single-use plastics.

This is actually the situation in Kenya and actually most of the rural towns especially those at the border with Tanzania, Uganda and Somalia are still using plastic bags. So the question to ask is – what is the place of the regulations on such a ban? Is there an alternative to the prohibition? It seems that the outright prohibition of plastics with little or no alternatives at all is not a solution to the plastic problem in Kenya. There is a need of getting alternatives which are cheap, re-usable or even that can be recycled.

1.10.4 Proposals and Recommendations Towards a Constitutionally Compliant Regime For Single Use Plastics

In the United Nations Environment Assembly of the United Nations Environment Programme Fourth session which was held in Nairobi, from the 11–15 March 2019, had the theme 'Innovative Solutions for Environmental Challenges and sustainable Consumption and Production'. During the preparation period for that meeting, the members had agreed that this meeting should focus on the 'need of a social innovation and local-indigenous knowledge needed on top of the technological innovation to solve the challenges facing the environment'.⁷⁰

Then at the meeting held in March 2019, the theme was carried on with many of the presenters pointing to a move towards sustainable production and consumption where the CS for Environment in Kenya stated that 'innovation was pivotal in moving towards sustainable production and consumption; local, traditional as well as indigenous knowledge would have an

⁷⁰ Delia Paul, 'UN Member States Begin Preparations for UNEA-4, (IISD 10 April 2018) <sdg.iisd.org>Accessed on 18 September 2019.

important role to play in enabling innovation to be adapted to varying societal needs⁷¹. He further stressed on the need for enhanced action for the reduction of single-use plastics and reversal of marine plastic pollution worldwide, which must be coupled with much-needed innovative, affordable and ecological alternative materials.⁷²

According to Tobiko, all human beings have a right to a healthy environment and this was the central theme of the current session and included a fundamental responsibility to ensure that economic activities protected the environment and human well-being. He urged the Environment Assembly to consider how the human right to a healthy environment could lead to innovative solutions that resulted in truly sustainable consumption and production.⁷³

Luc Gnago, in ‘Kenya should be focused on Recycling, not Banning Plastic Bags’ affirmed that “the reduction, re-use and recycling of solid wastes makes sense – based on the fact that Kenya lacks a petrochemical industry that is needed to make plastic materials. Kenya imports raw materials for the polythene and plastics industries from overseas. The recycling of plastics wastes is not a recent phenomenon in Kenya-it dates back to the early 1960s. A survey carried out in the year 2001 showed that over 90% of Kenya’s plastic manufacturing industries have internal reprocessing capacity for their own waste and rejects.”⁷⁴

Kenya has been trading on plastics since the 1980s. Waste collectors and small-scale traders started trading on unprocessed plastic waste directly to plastic producers for use as a raw material in the manufacturing of new plastic products. The collectors of wastes though informal present a more realistic and sustainable solution to plastic waste management in Kenya. The

⁷¹ UNEA-4 Resolutions, March 2019, Opening Speech by CS Keriako Tobiko, Ministry of Environment, Kenya, Par.8.

⁷² Ibid, Par.8.

⁷³ Ibid.

⁷⁴ Luc Gnago, ‘Kenya should be Focused on Recycling, not Banning Plastic Bags’,(*The Conservation*, 2018) <<https://theconversation.com/kenya-should-be-focused-on-recycling-not-banning-plastic-bags-79679>,> accessed 12 March 2019.

wastes become a source of raw material for the production of plastic materials, creating an interdependent relationship between solid waste management systems and plastic production.⁷⁵

Kenya needs an integrated plastic waste management system. There are three categories of plastic waste recycling industries and if this recycling has to be effective, then there is a need of learning the culture of solid wastes segregation for an effective and easy solution to the recycling process or even the decomposition of solid wastes. These need to be properly linked to plastic waste collection and separation chains. It would need the support and coordination from government, industry and civil society at all levels. In Kenya we still have the problem of separation of solid wastes of which most of these are SUP. If the culture of separation is adopted, then a proper disposal of the SUPs will be achieved. This will either be through recycling or re-use.

According to Peter Roy and Harry Albach, in their article '*Degradable Polythene: Fantasy or Reality*' noted that from the time synthetic polymers were discovered in the middle of the 19th century, most of the traditional materials were replaced by the plastics. This included the packaging materials, shopping bags, storage baskets etc. were replaced with plastics alternatives. This was because plastics are readily available and cheap given that in most of the supermarkets and retail shops they were given for free. But as time passed, and given the challenges that they pose to the environment, then here was a need of getting alternatives which unfortunately are not bio-degradable and as such causing more harm to the environment than the traditional materials.⁷⁶ The key challenge of SUPs is the mode of disposing them, bearing in mind that most

⁷⁵ Ibid.

⁷⁶ Peter Roy and Harry Albach, 'Degradable Polythene: Fantasy or Reality', (3 May 2018) <<https://pubs.acs.org/doi/10.1021/es104042f>, >accessed 7 January 2019.

Kenyans have a throw-away culture which leads to pollution of the environment. This is because SPUs are not capable of biodegradation.

However, Roy and Albach do not state the gaps on the laws that regulate such campaigns prohibiting the use of plastics. The issue of the available alternatives to replace the plastic bags has been raised by several people. In Kenya, NEMA has now even prohibited the use of non-woven bags which means that the alternatives that were in place are also under prohibition as the chemical compositions makes them non-biodegradable.

According to a UNEP Press Release on Regulatory Landscape for Single Use Plastics, 2018, it was noted that ‘plastic bags, throwaway SUPs, and microbeads are three major causes of pollution affecting the air, animals, waters, human beings etc. In most of the businesses, the plastic packaging is mostly single-use, and a most of them are discarded as soon as it is used.’⁷⁷ The problem is also the mode of disposal as most of these plastic wastes are disposed along the roadsides, oceans, rivers, and lakes and even in the middle of the towns and cities.

For MD Nannu Mian, in a conference paper entitled ‘*Using Plastic Bags and Its Damaging Impact on Environment and Agriculture*,’ concluded that there can be many eco-friendly alternatives to plastic carrier bags such as jute bags, biodegradable bags, and reusable bags. He stated that jute bags are recommended as an environment friendly alternative to plastic bags because the bags are made from biodegradable material which comes from a plant fibre called *jute*, mostly consisting of cellulose that is also environment friendly and have no harmful effects to the environment, human life and agriculture. The woven bags are a good alternative to the plastic bags as they pose no harm to the environment and can be used for several years. Woven

⁷⁷ UNEP ‘Regulatory Landscape for Single Use Plastics’, (Geneva, 6 December 2018) <<https://www.unenvironment.org/news-and-stories/press-release/regulatory-landscape-single-use-plastics-shows-widespread-momentum>> accessed 18 September 2019.

bags are also recommended as an environment friendly alternative to plastic bags. It has been suggested that the natural fibres of paper and its recyclability creates a positive image of the woven bags.⁷⁸

Though Rhian, in his unpublished thesis '*Plastic Shopping Bags: Environmental Impacts and Policy Options*,' pointed out that there was another alternative to the traditional plastic bags which is the biodegradable or bio-plastic bags. These ones have the same positive image of natural fibres and degradability as paper. However, there are many types of degradable and biodegradable plastics but not all are without environmental impact in which case the same can be said about reusable alternative to plastic bags. Unfortunately, there seem to be some alternatives which cause more harm to the environment more than the plastic carrier bags. Therefore, for Though Rhian 'the alternatives to plastic bags have to be assessed for environmental and social impacts across their potential life cycles, or a life cycle analysis before they can be recommended.'⁷⁹

The substitutes being proposed are a bit expensive and made of poor quality materials which led NEMA to impose a ban in March 2019. This ban did not take effect because the various stakeholders had not been consulted leading to the suspension of the ban. Kenya does not also have a comprehensive law that takes into consideration the production, consumption and disposal of plastics hence the challenges faced. This research will make proposals on the quality of plastics produced and innovative ways of disposing them.

⁷⁸ MD Nannu Mian, 'Using Plastic Bags and Its Damaging Impact on Environment and Agriculture' (Conference Paper, Times University Bangladesh, December 2011), <<https://www.researchgate.net/publication/272412141>> accessed 3rd January 2019.

⁷⁹ Though Rhian, '*Plastic Shopping Bags: Environmental Impacts and Policy Options*', (Unpublished Thesis Victoria University of Wellington 2007).

1.11 CHAPTER OUTLINE

The study comprises of five chapters:

Chapter One lays down the basis of the entire study and it will consist of the statement problem, hypothesis, and the objectives of the study, the research questions, justification of the study, theoretical framework, research methodology, literature review, assumptions of the study and the chapter breakdown.

Chapter Two will be specifically on prevalence of pollution by single use plastics in Kenya.

Chapter Three is an examination of the Regulatory (Law, Policies and Institutional) Framework governing single use plastics in Kenya.

Chapter Four will discuss the existing challenges, gaps, successes and innovations in the regulatory framework on single use plastics in Kenya.

Chapter Five will provide proposals and recommendations towards a constitutionally compliant regime for single use plastics.

CHAPTER TWO: EXAMINATION OF THE PREVALENCE OF SINGLE USE PLASTIC WASTE IN KENYA

2.0 INTRODUCTION

This Chapter will focus on the management and prevalence of single use plastics in Kenya. It will be approached from the point of view that after the ban of plastic carrier bags in 2017, there are still some other categories of plastics which are in use. The common ones are the SUPs which make a major part of solid waste generated at homes, industries, institutions despite etc. From personal observation, most of the towns and cities in Kenya are overpopulated and this has resulted into poor plastic waste management despite the efforts put by various stakeholders to curb such mismanagement. Cities like Nairobi, Mombasa and Kisumu have a major population living in informal settlement which aggravates the problem of SWM, which the pathway commonly used for disposal of municipal plastic waste. In relation to this, Leah Oyake states thus:

“[...] Plastic waste management has been carried within classical SWM management practices that centers on collection and disposal. However, with increased quantities of solid waste generation, the changing life style of urban people, the demand for better services and the stagnating capacities and resources of municipal authorities for waste management, such classical systems have proven inappropriate and largely fail to meet both public health and environmental goals for SWM.”⁸⁰

From Leah’s observation above, it is true that SWM is not properly handled in Kenya, hence the cause of continued harm to human health and the environment. According to Augustine Afullo and Frank Odhiambo, solid waste management refers to ‘all activities pertaining to the control, collection, transportation, processing and disposal of solid waste in accordance with the best

⁸⁰ Leah Oyake, *Managing Plastic Waste in Urban Kenya*, p.160.

principles of public health, economics, engineering, conservation, aesthetics and other environmental considerations’.⁸¹

This is what makes the management of single use plastics in Kenya to be difficult and the prevalence to rise on a day in day out basis. As discussed in Chapter One of this study, it seems that there are many questions to be answered by the way Kenyans dispose of single use plastics and how best this practice can be managed in order to have a healthy and clean environment free from plastic wastes.

In this chapter we shall discuss the management of SUPs, the various institutions and bodies dealing with plastic management, modes of waste management in Kenya and the actual situation of single use plastic waste management in Kenya.

2.1. MANAGEMENT OF SINGLE USE PLASTIC WASTE IN KENYA

For Seadon J, the management of waste encompasses its production, collating, and disposal and including better ways of disposing them. He notes that, ‘society requires greater sophistication in this management and it incorporates feedback loops, focusing on processes, which embodies adaptability and diverts wastes from disposal’.⁸²

Most of plastics are non-biodegradable by nature and if not properly disposed it takes a long period of time for them to decompose if at all they will. Proliferation of plastic waste is exacerbated when the plastic wastes are gotten rid of by means of dumpsites or by hiding them either under water or in jungles. Poor infrastructure is a big challenge and has affected the way

⁸¹ Augustine Afullo, and Frank Odhiambo, ‘The Primary Solid Waste Storage Gaps Experienced by Nairobi Households’ (Ethiopian Journal of Environmental Studies and Management Vol.2 No.3)38, 2009. See also Catherine Aurah, ‘Assessment of Extent to Which Plastic Bag Waste Management Methods Used in Nairobi City Promote Sustainability’, (American Journal of Environmental Protection 1, no. 4, 2013) 96-101.

⁸² Seadon J, ‘Sustainable Waste Management Systems’ (Journal of Cleaner Production. Vol.18 (16): 1639-1651, 2010)<doi:10.1016/j.jclepro.2010.07.009> accessed 6 June 2019.

solid waste is managed in Kenya. Waste management companies do not have the ability to process larger volumes of refuse generated by the ever increasing urban population.

A study carried out by JICA has shown that although the amount of waste has increased, this has not seen any increase in constituted bodies to manage it. Hence, in Kenya, proper management of waste has posed a huge environmental problem.⁸³

The methods commonly used to dispose of the solid wastes, and more specifically, the single use plastic waste are; incineration, recycling, burning, burying underground and dumping in dumpsites (both legal and illegal ones) most of which these methods used are not eco-friendly. For instance, burning plastics discharges greenhouse gases (GHGs) into the air that increases global warming. It is also scientifically proven that the lifespan of plastics is up to 1000 years, to bury them underground chokes the soil.⁸⁴ These among the various modes of disposal have advantages and disadvantages. Unfortunately, from my analysis, the disadvantages outweigh the advantages.

Visvanathan and Trankler stated that “waste management strategies can only be effective if at all the stakeholders work in tandem for a successful venture”.⁸⁵ In this section let us focus on the various modes of management of plastics in Kenya more so the plastics and the prevalence of single use plastics pollution in Kenya.

⁸³Japan International Cooperation Agency (JICA), ‘The Study on Solid Waste Management in Nairobi City in the Republic of Kenya: Final Report, (CTI Engineering & Environmental Technology Consultants 2010), <<http://lvzopac.jica.go.jp/external/library>> accessed 29 June 2019.

⁸⁴ Catherine Aurah, ‘Assessment of Extent to Which Plastic Bag Waste Management Methods Used in Nairobi City Promote Sustainability’, 96-101.

⁸⁵ Visvanathan C and Trankler J, ‘Municipal Solid Waste Management in Asia: A Comparative Analysis’ (Thailand, 2013)65.

2.1.1 Modes of Waste Management in Kenya

There are various methods used in the management of solid wastes in Kenya. These include waste reduction, composition, recycling, re-use among others. Some of these methods are effective while others are less efficient. The Integrated Sustainable Waste Management (ISWM) gave a new direction to solid waste management services, where waste is considered to have value and if properly managed it has the potential to contribute to economic and social development⁸⁶. The following methods of waste management are presently used in Kenya. Though effective, there is still room for improvement.

a) Waste Reduction

Reduction is the process of converting to a simpler form reducing waste to lower down the chain of supply. Waste reduction also known as source reduction, is the practice of using less material and energy to minimize waste generation and preserve natural resources.⁸⁷ According to Tilahun on the state of waste reduction in Kenya, he noted that ‘waste reduction strategies in Kenya have either been attempted or already exist – with some continuing, albeit at small-scale levels.’⁸⁸

Reduction of waste in Kenya is broader in scope than recycling and integrates preventing materials from ending up as waste before they reach the recycling stage. Tilahun further states that waste reduction consists of re-using products such as glass containers and plastic, using reusable products and procuring lasting products, like dish rags instead of paper towels.⁸⁹

⁸⁶ Hussein Abdel-Shafy and Mona S.M.Mansour, ‘Solid Waste Issue: Sources, Composition, Disposal, Recycling, And Valorization’,(Egyptian Journal of Petroleum Volume 27, Issue 4, December 2018,1275-1290)<<https://www.sciencedirect.com/science/article/pii/S1110062118301375>>accessed 3 June 2019.

⁸⁷ Underwood D and Others ‘Garbage: Practices, Problems, and Remedies’ (New York: Macer Publications, 1988)78.

⁸⁸ Tilahun Nigatu, ‘An Assessment of The Evolution of Kenya’s Solid Waste Management Policies and Their Implementation on Nairobi and Mombasa: Analysis of Policies and Practices’, (Nairobi: Kenya May 23, 2017)527.

⁸⁹ Ibid,p.528.

There are arguments from different people in relation to reduction who claim that ‘the most effective way to reduce waste is to not create it in the first place...’⁹⁰ But if one has to make a product then re-use will be most preferred mode of reducing the harm caused by some products like plastics which are used and disposed immediately.

It will be right then to state that reducing waste and re-use are the most effective ways you

Girum says that ‘recycling is the process by which materials that would otherwise become waste are collected, separated or processed and returned to the economic mainstream for re-use. It is also another method of reducing waste in the environment.’⁹¹ According to Jeffrey Peirce, Ruth Weiner and Aarne Vesilind ‘recycling can also be said to be a process where the public collects the used material and the return of this material to the industrial sector. This is very different from re-use, where the materials do not return for remanufacturing’.⁹² When it concerns waste recycling and utilization, there is need to concentrate on methods that help to reduce the quantity of waste. According to Dibyendu, the goals of SWM concentrate on community participation, waste reduction, source segregation, recycling, and employment generation.⁹³

A study which was commissioned by UNEP, NEMA, and KIPPRA has provided background information on how recycling is done in Nairobi. The study observed that ‘tyres, metals, used clothes recycling of paper and plastics, have become very common in Nairobi’.⁹⁴ But of all what they mentioned, plastics are the major causes of harm to the environment hence the need of getting better systems of recycling them given their non-biodegradable nature. Luc

⁹⁰ UNEP, ‘Reducing and Reusing Basics’, (United States Environmental Protection Agency, January 2017), <<https://www.epa.gov/recycle/reducing-and-reusing-basics>>accessed 13 June 2019.

⁹¹ Girum Bahri, ‘Sustainable Management of Plastic Bag Waste the Case of Nairobi’, Kenya, p.19.

⁹² Jeffrey Peirce, Ruth Weiner and Aarne Vesilind, ‘Environmental Pollution and Control,’ 4th Ed.(London:Elsevier Science & Technology Books, 1997)p.177.

⁹³ Dibyendu Sarkar and Others, ‘An Integrated Approach to Environmental Management’ (New York:John Wiley & Sons, 2015)p.222.

⁹⁴ Girum Bahri, ‘Sustainable Management of Plastic Bag Waste the Case of Nairobi, Kenya’, p.23.

Gnago on recycling of plastics stated that ‘recycling of plastics in Kenya is hampered by lack of modern technology and lack of innovation on how to use the recycled materials. There are also some other set-backs like contamination of recyclables and absence of policies on recycling’.⁹⁵

Regarding recycling of plastic wastes in Kenya, the plastic sector which is a group of Kenya Association of Manufacturers noted that ‘of the 45 plastic bag manufacturers operating in Kenya, approximately 17 companies conduct recycling of post-consumer plastic waste’.⁹⁶ They also pointed out that ‘the success of plastic waste recycling depends on the initiative taken by the City Council of various counties to facilitate source-separation and collection of recyclables’.⁹⁷

But the recycling process itself is faced with some challenges like the location where the wastes are disposed and even the points of collection. Land is scarce and the government should designate places for people to bring their plastic waste after consumption. There is also lack of a ready market for the purchase of what is recycled given that no established use of what is recycled due to lack of innovation, though some of the recycled products have been used for manufacturing of sheets for construction.

According to Girum, ‘there is a high demand for black plastic sheeting used in building and this makes recycling a lucrative venture. Due to the high demand for this product, scavengers in several dumpsites are having difficult time keeping up with the demand for post-consumer plastic wastes’.⁹⁸

If manufacturing and consumption of plastics would continue in Kenya, then the best option to manage plastics would be through recycling if the technology is improved, market for the final

⁹⁵ Luc Gnago, ‘Kenya should be Focused on Recycling, not Banning Plastic Bags’, (*The Conservation*, 2018).

⁹⁶ Girum Bahri, ‘Sustainable Management of Plastic Bag Waste the Case of Nairobi, Kenya’ op. cit., p.24.

⁹⁷ Ibid.

⁹⁸ Ibid, p.25.

products is sought for as well as the government designates the places for collection of the wastes. It is worth noting that the recycling process requires the participation of the public, since the public must perform the separation step which in Kenya is a key challenge.

c) Re-use

Re-use is another method of managing plastics and this is a culture that should be instilled to Kenyans. According to Jeffrey Peirce, Ruth Weiner and Aarne Vesilind 'Re-use of materials involves either the voluntary continued use of a product for a purpose for which it may not have been originally intended. The process of re-use means that the product does not return to the industrial sector, but remains within the public or consumer sector.'⁹⁹

There is need for clear guidelines on the manufacturing of the plastics that have to be re-used. This involves the materials to use, the chemicals contents, the durability as well as the mode of disposing after their life time. The regulations and modes of making such plastics form the corrective policy packages for the problem that such plastics may cause.¹⁰⁰

If we agree that the practice of re-use is facilitated by the same condition that promotes increment of wasteful consumption, then imposing a levy on one-way bags will lead to a more durable (re-usable) options while awareness campaigns could be geared to discourage the use and throw away culture and cultivate re-use.¹⁰¹

To achieve the socio-economic, political and environmental interests of the various stakeholders, then several factors have to be taken into consideration if re-use of plastics will be achieved. The quality of the plastics has to be high which translates into a high cost of production. This also

⁹⁹ Jeffrey Peirce, Ruth Weiner and Aarne Vesilind, 'Environmental Pollution and Control'p.179.

¹⁰⁰ Sessional Paper No. 6 of 1999 on Environment and Development.

¹⁰¹ Kenya Bureau of Standards (KEBS) which has developed a 30-micron thickness for manufacture of plastic materials and bags in order to encourage re-use of plastic materials especially the carrier bags thus reducing environmental pollution arising from waste.

affects the society because they have to spend more on buying the products. But, given that there are advantages attached to the re-use then it is better to spend more on production and keep the environment clean and healthy.

d) Composting

Composting is an effective strategy for alleviating the problems of unmanaged waste in Kenya especially in the informal settlements. It has managed to achieve a number of beneficial environmental effects especially in dealing with materials that can compose. It has led to improved health, physical environment cleanliness and actually what is decomposed can be used for other purposes like manure by the farmers. Unfortunately, some of them have resolved to use fertilizers and other chemical organics which cause harm to the environment.

If the plastics that are biodegradable can be decomposed to produce manure then the problem of pollution and health impacts can be reduced. In places like Nairobi County, it is the Community Based Organizations that carry out composting and sell its products sold to consumers like flower gardens. The UNEP study indicates that although the percentage of municipal solid waste recovered as compost is only 5% of the compostable at present, the practice is gaining popularity.¹⁰² The challenge that may come with this is scarcity of land and the failure to segregate the solid wastes.

e) Incineration

Incineration is a process that involves burning the waste produced through a heating that renders them non-hazardous to the environment. Many counties in Kenya are looking forward to the initiation of incinerators and one of the key counties is Nairobi County which owns no municipal

¹⁰² UNEP, 'Reducing and Reusing Basics', (United States Environmental Protection Agency, p.12.

solid waste incinerators. Incineration could also be one among the best methods of solid waste management but it has some disadvantages.

Firstly, as a result of the lack of solid waste sorting, the waste generated contains high food residues and moisture which may not be easily burnt. Secondly, there is lack of trained manpower to carry out the incineration. Thirdly, it is associated with high costs and may be inappropriate in most of the counties and lastly incineration of these bags produce toxic gases that are detrimental to human health.¹⁰³

Despite the challenges above, there are some institutions like hospitals that have their own incinerators for burning their medical wastes. Girum Bahri states that some pharmaceutical plants that have their own incinerators used for burning expired drugs are Twiga Chemicals and RID Pharmaceutical Laboratories.¹⁰⁴

There is a need to dispose waste through this process to reduce and completely eliminate plastic waste that is hazardous to both plant and animal. However, incinerators release hazardous fumes that ultimately pollute the air.

It is unfortunate that the burning of waste as a method of waste disposal in Nairobi clearly constitutes a pattern of practice which contributes to the release of U-POPs into the environment¹⁰⁵. There are over 15 incinerators licensed by NEMA countrywide having complied with the provisions of the Third schedule of the Waste Management Regulations of 2006. Even

¹⁰³ Kihuria Leah Wanjiku, Kihuria Leah Wanjiku, 'Legislative and Institutional Frameworks Governing Solid Waste Management in Kenya: Case of Plastic Bags in Nairobi', p.96.

¹⁰⁴ Girum Bahri, 'Sustainable Management of Plastic Bag Waste the Case of Nairobi, Kenya' op. cit., p.27.

¹⁰⁵ Environmental Liaison, Education and Action for Development, 'A Study on Waste Incineration Activities in Nairobi that Release Dioxin and Furan into the Environment' (November 2005, 21).

though the licensed incinerators are few other medical facilities are encouraged to share since they are not operating at optimal capacity.¹⁰⁶

f) Landfilling

Landfilling is another mode of disposing waste. A land fill is a ‘carefully designed structure built into or on top of the ground in which trash is isolated from the surrounding environment (groundwater, air, rain). This isolation is accomplished with a bottom liner and daily covering of soil. A sanitary landfill uses a clay liner to isolate the trash from the environment. A municipal solid waste (MSW) landfill uses a synthetic (plastic) liner to isolate the trash from the environment’.¹⁰⁷

The purpose of a landfill is to bury the trash in such a way that it will be isolated from groundwater, will be kept dry and will not be in contact with air. Under these conditions, trash will not decompose much. A landfill is not like a compost pile, where the purpose is to bury trash in such a way that it will decompose quickly.¹⁰⁸

In a landfilling process solid wastes such as metal, paper and glass are buried between layers of dirt and other materials in such a way as to reduce contamination of the surrounding land. Modern landfills are often lined with layers of absorbent material and sheets of plastic to keep pollutants from leaking into the soil and water.¹⁰⁹ The national government planned to have a landfill in a 50 acres piece of land to serve Nairobi Metropolitan but some people are against it

¹⁰⁶ National Environment Management Authority, ‘The National Solid Waste Management Strategy’, February 2015, <http://www.nema.go.ke/images/Docs/Media%20centre/Publication/National%20Solid%20Waste%20Management%20Strategy%20.pdf> >accessed 23 July 2019.

¹⁰⁷ Craig Freudenrich, ‘How Landfill Works’ < <https://science.howstuffworks.com/environmental/green-science/landfill3.htm>>accessed 19 June 2019.

¹⁰⁸ Ibid.

¹⁰⁹ Collins *English Dictionary ‘Complete and Unabridged’, 12th Ed. (2014)* <<https://www.thefreedictionary.com/landfilling> > accessed 21 September 2019.

claiming that it will have adverse effect to the underground water which project has since then been suspended¹¹⁰. Kenya does not currently have sanitary landfills installed as the one proposed one was in Mitubiri in Muranga which has stalled.

In Kenya one of the key dumpsites is Dandora dumpsite which is the destination of about 850 tonnes of solid waste generated daily by around 3.5 million inhabitants in entire city of Nairobi. The 30-acre site, which is one of the largest in Africa was once a quarry that the City Council of Nairobi sought to use temporarily. It was opened nearly forty years ago, and declared full in 2001, yet it is still in operation. This dumpsite is open to all sorts of wastes ranging from industrial wastes to household wastes.

Some of the disadvantages of Dandora dumpsite, just like most of the dumpsites, is that it is located at the periphery of the city, hence the high costs of disposing of waste. The costs have also been exacerbated by lack of transfer facilities.¹¹¹ Another reason for relatively high cost is additional expenses related to insecurity because a clique of waste separators and dealers have control over the site with each gang controlling its territory claiming property rights on its plot and garbage that is dumped there. They also have control over trucks. All the garbage truck drivers including those of the council have to abide by the rules of the gangsters failure to which their trucks are vandalized.¹¹²

The problem is not only in Nairobi, but there are places like Naivasha where in the case of *African Centre for Rights And Governance (ACRAG) & 3 others v Municipal Council of*

¹¹⁰ Wainaina Ndung'u, 'State Bans Projects at New Makuyu Dumpsite' in East African Standard (6 July 2018) <<https://www.standardmedia.co.ke/article/2001286920/state-bans-projects-at-new-makuyu-dumpsite>> accessed 9 October 2019.

¹¹¹ Girum Bahri, 'Sustainable Management of Plastic Bag Waste', op.cit. p.67.

¹¹² Ibid, p.68.

*Naivasha*¹¹³ the petitioners argued that the continued operation of the dumpsite was violating their right to a clean and healthy environment; and there was evidence showing that the dumpsite was poorly managed and a clear hazard. The petitioners went further and argued that EMCA required that all dumpsites be licensed and there was no evidence that the dumpsite in question has ever been licensed and as such its operations therefore illegal. The court held that the facility in issue was a threat to a clean and healthy environment and its operations were indeed illegal. The operation of the facility by the respondent and its successor, the County Government of Nakuru, violated the rights of the petitioners and indeed the rights of the residents of Naivasha, and of all person's resident in Kenya, to a clean and healthy environment as provided for in Article 42 of the Constitution.

h) Waste Segregation

Segregation is the process by which wastes are sorted into different categories. Actually the developed countries have systems of segregation that are well developed and heavy fines are inflicted to those who go against the particular countries laws and policies on waste separation.

Some estates in major cities in Kenya have tried to separate wastes but it is still a culture that seem hard for many Kenyans. In a study carried out by Marino Lupo and Others they pointed out that 'households within Nairobi [Kenya] do not segregate wastes at source. This clearly indicates that source reduction does not take place to a significant level. This is attributed to scavenging which helps in ensuring that some valuable material is recovered. Scavengers help in segregation

¹¹³ *African Centre for Rights and Governance (ACRAG) &3 others v Municipal Council of Naivasha [2017] eKLR*

of food scraps, paper, hard plastics, glass, and tins'.¹¹⁴ Lack of segregation amounts to solid waste that may result in harming the environment and human health.

2.2 THE PREVALENCE OF SINGLE USE PLASTIC POLLUTION IN KENYA

As stated in the statement of problem of this thesis, the prevalence of plastics and more specifically SUPs in modern lifestyles is indisputable. This has led to many studies and goals being set on how to reduce the poor disposal of plastics and even the use. In order to meet the Millennium Development Goals (MDGs) a global consensus was successfully forged around the importance of human development and poverty reduction.¹¹⁵ One of the key aspects that lead to increase in some of the problems like poor waste disposal is urbanization. According Lupo and others 'urbanization provides jobs and creates opportunities for millions of people but at the same time, adding pressure to the resource base by increasing demand for energy, water and sanitation, as well as for public services, education and health care'.¹¹⁶

Human health and the environment have to be protected by all if at all sustainable development has to be achieved. Velis, Rodic and Wilson pointed out that there are some issues in relation to human health and environment which are pertinent and there is a need of addressing them. These include 'the proper disposal of solid wastes that contain plastics that can cause harm to the animals, human beings, the air, water as well as the soil...these being the common wastes that are lying in those areas, there is a need of implementing policies and regulations on how to address the modes of disposal'.¹¹⁷

¹¹⁴ Marino Lupo, and Others, 'Investigation on an Innovative Technology For Wet Separation of Plastic Wastes', (Waste Management, 2016), 51, 3–12.

¹¹⁵ Millenium Development Goals, 2000.

¹¹⁶ Marino Lupo and Others, Investigation on an Innovative Technology for Wet Separation of Plastic Wastes', p.52.

¹¹⁷ Wilson, Velis and Rodic, 'Integrated sustainable waste management in developing countries' (Institution of Civil Engineers Publishing (Waste and Resource Management Vol.166 Issue WR2, 2013)<<http://dx.doi.org/10.1680/warm.2005>> Accessed 12 May 2019.

Barnabas Bii in an article published in a daily paper in Kenya stated that ‘despite the prohibition of the use of plastic-carrier-bags in 2017, we still have plastics being used in Kenya especially at the bordering towns like Busia.’¹¹⁸ The towns neighbouring Kenya from Ugandan side and Tanzanian side are the key victims of continued use of plastic carrier bags. Hopefully now that Tanzania has also banned single carrier plastics, the situation will be different.

There are various stakeholders, NGO’s, individuals who have devised ways of managing plastics waste but it is still a challenge; the key one being the process of ‘‘collection, transportation and disposal of waste which is not systematically structured in any Kenyan city’’.¹¹⁹ According to Ikiara, Karanja and Davis¹²⁰, ‘this dysfunctional administrative system has led to widespread indiscriminate waste dumping, and prevalence of casual littering due to lack of public education and non-enforcement of Nairobi City County by-laws’. In relation to this, Mwasi Dali then states that;

‘‘Plastics are the most ubiquitous man-made compound on earth and from early 1950 to 2015, more than 8.3 billion metric tons of plastics have been created. Interestingly, half of those tons of plastics have been produced in the last 13 years. The trend is likely to increase further in the near future. Eight million metric tons of plastic end up in our oceans yearly. This is likely to have negative effect on the marine ecology and people. Turtles eat plastic bags thinking that they are jelly fish. Birds are also attracted to the smell of algae growing on floating plastic. This spells a death sentence to turtles and jelly fish. This has prompted civil society organizations in Kenya to roll out campaigns to sensitize Kenyans on the effects of plastics in water and land’’.¹²¹

¹¹⁸ Barnabas Bii, ‘What Ban? Plastic Bags Trade Still Thriving in Western Kenya Towns’, (4 December 2018) (https://www.google.it/url?sa=i&source=web&cd=&ved=2ahUKEwiTvqKfldvfAhVmx4UKHXOBD2YQzPwBegQIm92_mgLgiSh&ust=1546933164317618) accessed 5 January 2019.

¹¹⁹ Catherine Aurah, ‘Assessment of Extent to Which Plastic Bag Waste Management Methods Used in Nairobi City Promote Sustainability’, 96-101.

¹²⁰ Ikiara M, Karanja M and Davis T, Moses Ikiara, Anne Karanja, Theo Davies, ‘Collection, Transportation and Disposal of Urban Solid Waste in Nairobi, p.24.

¹²¹ Dali Mwasi, ‘Managing Plastic Pollution to Save the Environment’, (*Business Daily Africa* 23 July 2018) <<https://www.businessdailyafrica.com/columnist/4259356-4617672-ug9t>> Accessed 1 June 2019.

This is the situation in Kenya especially along the coastal region where Indian Ocean has suffered the menace of single-use plastics which has led to the death of many marine life. Efforts have been made by both the national and county governments of Kenya which have now prioritized SWM highly over other environmental issues, provision of safe and clean water as well as housing. Despite all the efforts put, the problem of plastic bag waste in Kenya still poses a major concern. Many of the residents of the major cities, major shopping centers like Eastleigh, Kamukunji, Gikomba faces huge SWM challenges. Many of its residential estates are littered with plastic bags. The magnitude of disposal of plastics at any point of the cities remain a threat.

Plastic pollution is very common in Kenya to an extent that massive plastic bag waste lie on the streets of urban centres in Kenya like Nairobi. It is common to spot plastics along roadsides. Kenya's major urban areas are caught up in the plastic menace. Prevalence of plastic pollution has prompted environmentalists, politicians, members of the parliament, and the general public to speak out against the effects of the problem. Notable among these were Nobel Peace Laureate professor Wangari Maathai who said that 'if you are sold fish and chips wrapped in plastic bags, it is prudent that you refuse the food'.¹²² On the same President Mwai Kibaki in his opening speech at the UNEP Governing Council Forum in February 21, 2005, said that 'plastic bags are used in large quantities at the household level in major cities in the Republic of Kenya'¹²³ and this is true and even aggravating. Proliferation of plastic wastes prompted the

¹²² Zipporah Musau, 'Kenya: Reduce Use of Plastic Bags, Urges Prof Maathai', (*Daily Nation*, 24 February 2005) <<https://allafrica.com/stories/200502231010.html>>accessed 13 September 2019.

¹²³ NEMA, 'About NEMA Kenya'(Oct 12, 2004) <<https://www.nema.go.ke/aboutnema.html>> accessed 2 June 2019. See also President Mwai Kibaki in his opening speech at the UNEP Governing Council Forum of February 21, 2005.

Wildlife Club of Kenya to organize a march that was intended to make the government to come up with laws to regulate plastic bag manufacturers.¹²⁴

UNEP asserts that plastic pollution has created notable environmental problems in Kenya. It has created visual pollution that adversely affects vital sectors of the economy like tourism. It sees plastic pollution as the cause of drainage blockage, threatens aquatic life and livestock.¹²⁵

Plastics are also a common sight in slums without toilets where they are used as toilets. One such slum where plastics bags are very common is Kibera in Nairobi. It is one of the largest slums in Africa with an estimated population of 500 000 people. Environment Liaison Centre International states that plastics are used in Kibera Slums as flying toilets due to lack of adequate toilet facilities.¹²⁶

In his thesis, Haria Nishit interviewed those in the packaging industry and some posited that plastic carrier bags of 6 microns are responsible for littering in Kibera since they are affordable. A shift to 10 microns bags has not borne fruits with regards to prevention of pollution because of lack of effective collection and recycling infrastructure.¹²⁷

Plastics bags disposed in open places, due to their light weight, are easily scattered by wind. This makes it hard to gather them. As a result, they have ended up littering rivers, road sides and open spaces, in Kenya. They cause blockage and stagnation in rivers.

¹²⁴Wikinews, 'Report Urges Kenya to Ban Plastic Bags' (Oct. 12, 2004) <https://www.en.wikinews.org/wiki/Report_urges_Kenya_to_ban_plastic_bags> accessed 2 June 2019.

¹²⁵UNEP, 'Selection, Design and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya: The Case of Plastic Bags', 2005, p.23.

¹²⁶ Environment Liaison Centre International, Community Guide to Environmental Issues and to the Environmental Management and Coordination Act, 1999: Nairobi City (ELCI 2005).

¹²⁷ Haria Nishit, Indian Businessmen in Kenya During The Twentieth Century: A Case Study (Unpublished Thesis, Yale University, 2018) p.65.

A study commissioned by NEMA and UNEP in 2005 came to a conclusion that 4000 tonnes of plastic were produced monthly in Kenya with almost half that amount going into waste stream. The plastic bags that go into the waste stream are less than 15 microns in thickness. These thin plastic bags inadvertently litter the environment, effort towards recycling these plastic bags bear very little fruits.¹²⁸ The study also paints a very grim picture of the situation as there are no alternatives to the plastic shopping bags. There are shopping baskets made from readily available natural resources, however, the availability of plastic shopping bags make people overlook their usefulness.¹²⁹

Kenyans also have a throw-away culture of plastics after use.¹³⁰ This is still being witnessed even after the ban of plastics in Kenya. As noted above in the statement of problem, the ban was only on single carrier plastics which exempted single use plastics like straws, water bottles, plastic cutlery, industrial package plastics¹³¹ which by and large are a major pollutant to the environment. In most of the centres of the major cities like Nairobi and more specifically Eastleigh, Dandora, Kamukunji in Nairobi, Taveta Market in Taita, Kongowea in Mombasa city among others have piles of plastics. Along the coastline and even in the Indian Ocean there are plastic bottles and straws that are floating in the water.

Walking along the streets and roads of Kenya, it is clear that the ban of plastic carrier bags was not sufficient as there are plastics ranging from packs of breads, candies, detergents, industrial

¹²⁸UNEP, 'Selection, Design and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya: The Case of Plastic Bags', op. cit, p.34, 2005

¹²⁹ Ibid.

¹³⁰ Catherine Aurah, 'Assessment of Extent to Which Plastic Bag Waste Management Methods Used in Nairobi City Promote Sustainability', 96-101..

¹³¹ UNEP, 'Selection, Design and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya: The Case of Plastic Bags', op. cit, p.36, 2005.

pack plastics and even plastic cutlery like spoons, cups etc. These all are a clear indication that the ban of plastics has to be extended beyond what the CS of environment had foretold.

The early 1960s saw the introduction of plastics in Kenya for packaging. As times passes, these plastics are continuously used and dumped recklessly becoming biggest challenge in solid waste management. *Kenya Vision 2030* noted that waste management as a major national issue and made plastics management a flagship project that should be addressed urgently.

Following the 2017 ban on plastic carrier bags and the exemption of SUPs from the ban, pollution is still on the highest as the mode of their disposal has not been addressed. This led to President Uhuru Kenyatta announcing a ban on single-use plastics in beaches, national parks, forests and conservation areas. These are what are called ‘protected areas’.¹³² He stated that “Sustainable environment is a guarantee to a healthy, better and productive society...”¹³³ The Ministry of Tourism and Wildlife it was stated that,

“The ban of plastics bottles, straws, and related products in the protected areas [...] shall be effective in 12 Months, i.e. by 4th June 2020. The ban underlines the government’s commitment in managing the plastic pollution menace, in line with the various legal provisions on waste management and conservation of the natural resources and ecosystems, as well as Kenya milestones in achieving *Sustainable Development Goals by 2030*, especially that provides for governments and private entities to ensure and promote sustainable consumption and production patterns

¹³² The Wildlife Conservation and Management Act (WCMA) 2013 defines a ‘Protected Area’ as a geographical space, recognized, dedicated and managed through legal or other effective means, to achieve long-term conservation of nature with associated ecosystem services and cultural values. The Act further addresses the issue on pollution, with Section 89(1) (b) and (c) of the Wildlife Conservation and Management Act, making it an offense to pollute within these protected areas.

¹³³ James Kariuki, ‘Uhuru announces Ban on Single use Plastic in Kenya’ (*The Star 5 June 2019*) < <https://www.the-star.co.ke/news/2019-06-05-uhuru-announces-ban-on-single-use-plastic-in-kenya/>> accessed 18 September 2019.

especially target 12 that aims to substantially reduce waste generation through prevention, reduction, recycling and re-use by 2030.’’¹³⁴

From the above it is clear that the management of SUPs is a serious challenge as the ecosystem is affected as well as the environment. Efforts have been put in various methods of managing plastic wastes in Kenya like waste reduction, recycling, re-use, waste characterization, incineration, composting, landfilling among other methods of waste management.

2.3 CONCLUSION

This Chapter has analyzed the management and prevalence of plastics and more specifically the single use plastics in Kenya. Emphasize has been laid on the key bodies that deal with the production and management of the plastics. The researcher also dealt with the various modes used in Kenya in the management of plastic wastes which included reduction, re-use, recycling, composition, landfilling among others. All these methods are meant to reach the goal of a clean and healthy environment. It was observed that most of these methods are not effective hence the cause of further studies and proposals for the best methods to adopt.

The prevalence of SUP in Kenya was also discussed and it was clear that the major causes of the accelerated use of plastics is urbanization and most of the Kenyans in major cities dwell in informal settlements where the illegal business of SUP is still on despite the 2017 ban of plastic carrier bags.

¹³⁴Silas Wachira, ‘President Bans Single-Use Plastics in Protected Areas’ (June 14th 2019)<<http://www.tourism.go.ke/president-bans-single-use-plastics-in-protected-areas/#>> accessed 19 September 2019.

CHAPTER THREE:

REVIEW OF THE LEGAL AND INSTITUTIONAL FRAMEWORK ON SINGLE USE PLASTICS IN KENYA

3.0 INTRODUCTION

This Chapter presents the laws and the main institutions that deal with solid waste management moreso the management of plastics. There are different institutions, policies and laws pertaining to plastic management in Kenya which SUPs are inclusive. Reviewing these laws and institutions will be key to help us to respond to the problem posed in Chapter One- whether the laws and policies in place are sufficient, taking into account that plastics pollution is an interference to the constitutional right to a clean and healthy environment. From the study, the researcher will establish the gaps, successes and innovations in the legal and institutional framework that will in turn aid the researcher to lay a basis in the making of the relevant conclusion and recommendations at the end of this study.

A keen look will also be laid on the laws and policies already in place like the Environmental Management Coordination Act, the Public Health Act, and the County by-laws among others. Focus will be put on three major institutions that are charged with preventing proliferation of plastics i.e. the National Environment Management Authority (NEMA), Kenya Association of Manufacturers (KAM), and Kenya Institute for Public Policy Research and Analysis (KIPPRA). Their role and capacity in management of wastes will be analysed and the authorities that established them will also be discussed. The list is long and wide but not all will be considered in this study.

3.1 LEGAL AND POLICY FRAMEWORKS GOVERNING PLASTIC POLLUTION IN KENYA

There are several laws and policies in place to help in managing proliferation of plastic wastes in Kenya. The first one worth mentioning is the Constitution of Kenya 2010 which has set out human rights in relation to the environment. Other such ambitious initiatives are the operationalization of Environmental Management and Coordination Act which set up the National Environment Management Authority (NEMA).

In terms of policy formulation, Kenya Institute for Public Policy Research was set up by an Act of Parliament to help the government on policy formulation. There are also other players like the Local Authorities which also help in solid waste management of which SUPs are inclusive. In this chapter, we will focus on the legal and policy framework governing plastic pollution in Kenya with a view of establishing the key successes, gaps, innovations that are needed so that we may have a state that is compliant to the law more so the Constitution. We will first analyse the Constitution (2010), EMCA Revised edition 2018 [1999], Local Government By-Laws, The Public Health Act, Revised Edition 2012 [1986], Solid Waste By-Laws and the County Governments Act, 2012.

3.1.1 The Constitution of Kenya, 2010

The Constitution of Kenya provides for clean and healthy environment as a right for every Kenyan and obligates every institution to provide that constitutional right as well as availing those services that will ensure integrity of the environment.¹³⁵ But on the other hand to Paolo Paron , Daniel Olago and Charles Omuto claim that ‘The Constitution does not contain explicit

¹³⁵ The Constitution of Kenya, Article 42.

environmental provisions. However it places importance on the right to a clean and healthy environment.¹³⁶

All the other laws, policies and Acts of Parliament draw their force from the Constitution. To enjoy a clean and healthy environment the constitutions advocates for avoidance of any activity that can cause harm to the human person. It is for this reason that in 2017 NEMA banned plastic carrier bags which were seen to be the major cause of pollution to the environment which in turn affected the people, animals, marine life etc.

Under Article 42 of the Constitution on the Environment it provides that every person has the right to a clean and healthy environment, which includes the right (a) to have the environment protected for the benefit of present and future generations through legislative and other measures, particularly those contemplated in Article 69; and (b) to have obligations relating to the environment fulfilled under Article 70.

Lastly, Part 2 of the fourth Schedule in the Constitution of Kenya also explicitly provides that the County Governments shall be responsible for; refuse removal, refuse dumps and solid waste disposal.¹³⁷

With regard to the Constitution, the question to ask is –what was prohibited or rather banned by the Special Gazette Issue of the 14th March, 2017? What is plastic carrier bags or did the notice make reference to other plastics? It seems that the prohibition of plastic carrier bags has not solved the problem of pollution hence the cause of alarm. If there is to be a true compliance to the call of the Constitution on the right to a clean and healthy environment, then the relevant stakeholders should device ways and means of making substitutes that are eco-friendly.

¹³⁶ Paolo Paron, Daniel Olago and Charles Omuto, ‘Kenya: A Natural Outlook Geo-Environmental Resources and Hazards’ (Netherlands: Elsevier; 2013) p. 251.

¹³⁷ Articles 42, 69 and 70, Constitution of Kenya, 2010. See also the Fourth Schedule.

It is true that many Church Based Organization's and Non-Governmental Organizations campaigned for the ban of all SUPs but we have other institutes like KAM who are against the ban? They are advocating for innovative methods like re-use, recycling etc. UNEA-4 was for the idea of innovation and if it works, well and good but care has to be taken that no one suffers at the expense of another person's benefit.

From Articles 10, 42 and 69(1) CoK 2010, it is clear that the right to a clean environment is a fundamental right and more so key in sustainable development. This should be expressed in the way how the various institutions and bodies incorporate same laws and regulations in order to reach to the requirements of the constitution.

3.1.2 Environmental Management and Coordination Act, EMCA, 1999 [2018]

The Environmental Management and Co-ordination Act (EMCA), was passed by the Kenyan Government in 1999, and came into force in January, 2000. For Omuto and Others, "The EMCA creates an all-embracing agency for the management of the environment as opposed to hitherto exiting legislation that set up sectorial agencies, often leading to regulatory competition. The Act confers *locus standi* on individuals to enforce environment rights. It also establishes a right to a clean and healthy environment and makes provision for carrying out of EIA".¹³⁸ Girum Bahri states that:

"The EMCA which creates NEMA is meant for its implementation and it provides a strong institutional base for management of environmental problems and the use of economic instruments from plastic shopping bag waste. Furthermore, it underscores the fact that although the private sector has been participating in the collection, management, the transport and eventually the disposal of solid waste in the absence of any policy or legal supports, EMCA and policy development efforts by the Nairobi City County consider privatization as one useful instrument for the management of solid wastes in the country."¹³⁹

¹³⁸ Paolo Paron, Daniel Olago and Charles Omuto, 'Kenya: A Natural Outlook Geo-Environmental Resources and Hazards', p.253.

¹³⁹ Girum Bahri, 'Sustainable Management of Plastic Bag Waste', op. cit, p.132.

Sections 3, 86, 87, and 142(1) of EMCA are very relevant in waste management and specifically in plastic waste management. Under section 3 of the Act, all Kenyans have the rights to a clean and healthy environment.¹⁴⁰ Moreover, they also have a responsibility to safeguard the environment.

Section 87, compels people who through their generation of wastes or the generation of wastes to ensure the waste is reduced through treatment, reclamation, and as well as recycling. Section 142(1) of the Act, individuals or institutions that discharge dangerous materials into the water, land, water, air, or the aquatic environment are guilty of an offence. There are also penalties laid down on violations of the Act, like the offender having to pay the full cost of cleaning up already the polluted environment. The court is also at liberty to compel an individual who has violated the act to pay any party who has incurred damages due to pollution. Part V of the Act under Section 57, sub-section I makes provisions of taxes to promote the management of environment. Since the enactment of EMCA 1999, Leah Oyake in her research titled: '*Managing Plastic Waste in Urban Kenya: Niche Innovations in Production and Recycling*' states thus:

“There exists a gradual shift towards embracing recycling of waste as a solid waste management option. EMCA recognizes recycling of waste as a management strategy and recycling is now the key word in a number of government policy documents. The Ministry of Local Government drafted the National Solid Waste Management Strategy in 2008 that embodies recycling targets to be achieved by city authorities for their solid waste management systems.’¹⁴¹

UNEP underscores the importance of enactment of EMCA as it helps in the creation of a strong institutional base for using economic instruments to manage proliferation of the plastic waste. It

¹⁴⁰ The Constitution of Kenya 2010, Art.42.

¹⁴¹ Leah Oyake, *Managing Plastic Waste in Urban Kenya*, p.161.

sees the enactment of EMCA as the only avenue through which the management of the solid wastes in the country will be achieved.¹⁴²

EMCA also gives NEMA the power to implement all environmental policies and laws of Kenya. Some of these are on the ban of SUP and other plastics which the Authority has tried to ban.¹⁴³

In his Article Ikiara Moses terms EMCA as the most comprehensive environmental legislation attempt in Kenya because it allocates property rights to citizens on various aspects of the environment as the citizens have a right to clean the environment.¹⁴⁴ The Act also gives the citizens the power to prosecute offenders.

3.1.3 The Public Health Act, Revised Edition 2012 [1986] Cap 242

The Environment Liaison Centre International in *Community Guide to Environmental Issues and to the Environmental Management and Coordination Act* spells out the responsibilities of local authorities under the Public Health Act. Sections 116 and 117 of this Act obliges county governments to maintain cleanliness and prevent danger to health from unsustainable dwellings.¹⁴⁵

Section 126A of the Public Health Act compels every County to make by-laws that regulate the construction of buildings and sanitary conveniences for drainage and sewer. Finally, section 129 of the Act acknowledges the local council's responsibility in prevention of pollution of drinking water sources and the prosecution of polluters.¹⁴⁶

¹⁴²UNEP, Selection, Design and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya: The Case of Plastic Bags' p.36.

¹⁴³Plastic Bag Ban in Kenya Proposed as Part of a New Waste Strategy, UNEP Press Release, 2005.

¹⁴⁴ Ikiara M, Karanja A, and Davies T, 'Collection, Transportation and Disposal of Urban Solid Waste in Nairobi' op.cit. p. 34.

¹⁴⁵ Environment Liaison Centre International, *Community Guide to Environmental Issues and to the Environmental Management and Coordination Act*, 1999: Nairobi City (ELCI 2005).

¹⁴⁶Ibid.

The importance of this Act cannot be underestimated as it is from the same Act that the implementation of the constitution in relation to a clean and healthy environment is actualized.

3.1.4 Solid Waste By-Laws –County Level, 2015

The NEMA drafted the National Solid Waste Management Strategy in 2015. The principle that guides this Strategy is ‘*zero waste principle*’ whereby waste is a resource that can be harnessed to create wealth, employment and reduce pollution of the environment.¹⁴⁷ Due to the poor state of affairs regarding the existing waste management facilities within the 47 Counties, NEMA developed minimum requirement points for management of the existing waste management facilities so as to continuously promote compliance with the waste management regulations within the counties.¹⁴⁸

According to this strategy by NEMA, the minimum requirement points at the collection of wastes, the transport, the disposal and licensing which were developed through a participatory process by five counties being Mombasa, Eldoret, Nakuru, Kisumu as well as Thika to help County Governments on the move towards full compliance of embracing sanitary landfills and other environmentally friendly waste management practices.¹⁴⁹

There are several counties that have responded to this by enacting solid waste management by-laws, which spell procedural requirements for the waste collectors, highlight the need for both infrastructural and technical assistance to all groups engaged in the re-use, collection and the recycling of the plastics. These by-laws often do not adopt the recycling targets. Despite this change, solid waste management systems of Kenyan cities are still not fully embracing material

¹⁴⁷The National Solid Waste Management Strategy, op. cit, p.43.

¹⁴⁸Ibid, p.5.

¹⁴⁹Ibid, p.12.

recovery activities and many recycling initiatives grow despite rather than because of local authorities' efforts in solid waste management.

3.1.5 The County Governments Act, 2012

The management of solid wastes in the forty-seven (47) counties remain a challenge in Kenya. For several years, the local authorities (now Counties) did not take priority in the establishment of proper solid waste management systems and this was continued by the counties after 2010.

The Act under Section 120 provides for tariffs and pricing of public services, subsection (3) A tariff policy adopted under subsection (1) shall reflect following guidelines — part (h) promotion of the efficient, effective, economic, and sustainable use of resources, the recycling of waste, and other appropriate environmental objectives.¹⁵⁰ It is already under the Act that the environment is key hence the call for the recycling of wastes.

This is geared towards the sustainable use of resources as well as the need for securing a healthy environment as reflected under the CoK 2010, Article 42. The National Solid Waste Management Policy points only at five cities and towns for implementation of sustainable solid waste management systems, but this Strategy shall be applied countrywide and this is to all 47 counties.

3.1.6 The Nairobi City County Solid Waste Management Act, 2015

At this point it is worth mentioning the laws enacted by Nairobi City County Government on the management of solid wastes. Under section 3 (a) of the Act it is stated that the key objects are to provide the county legal framework for solid waste management a function that is spelt out in the Part 2 of the Fourth Schedule of the CoK and pursuant to Article 69(2) provide a legal

¹⁵⁰ The County Governments Act, No.17 of 2012.

framework that encouraged public participation in the protection, management, and the conservation of the environment.

Section 5 of the Act speaks to Article 42 of CoK and under EMCA section 3 it is stated that all people with the County are entitled to a clean and healthy environment and all have a duty to safeguard and enhance the quality of the environment'. The Act further gives provisions for the city counties to regulate waste management within the cities; disturbing a waste disposal site or container approved by the council is wrong; Occupiers/tenants of any building/trade premises must have a sizeable container with a good lid in which the daily domestic waste should be kept. Trade and domestic premise occupiers and owners shall separate recyclable waste and place them in different containers provided and approved by the councils, burning and throwing away of the wastes in an appropriate place is an offense.¹⁵¹ According to the *NEMA News* it was observed that:

“In the face of growing MSW generation in Nairobi city (which represents all major cities), due partly to rapid urbanization, the NCC by-laws are ill-equipped to act as a deterrence to companies and individuals who indiscriminately pollute the environment. Although NCC by-laws prohibit illegal disposal of waste, specify storage and collection responsibilities for solid waste generators, and indicate the Council’s right to collect MSW management charges, all of these are not adequately implemented. Industry associations such as KAM also stress that failure of the NCC by-laws is one of the most essential cause of growing problems in respect of illegal dumping and littering’¹⁵² (including post-consumer plastics).

With these regulations in place the question to ask is-how comes the cities are still filthy and littered? This calls for the Local Authorities’ By-Laws to be specific on the solid waste and more specifically the SUPs which are the major cause of the pollution.

¹⁵¹ Nairobi City Council, ‘Solid Waste Management, 2017’ < <https://nairobi.go.ke/county-laws/> >accessed 15 August 2019

¹⁵²National Environmental Management Authority News, April-June 2018, <<http://www.nema.go.ke/images/Docs/Magazines/NEMA%20Magazine%20April-June%202018.pdf>>accessed 13 July 2019

3.1.7 The Physical and Land Use Planning Act, 2019, No. 13

The Physical and Land Use Planning Act, which was enacted in the 2019, gives some norms and principles of physical and land use planning. All citizens who are engaged in the use of land and physical land planning development activities that should be planned in a manner that integrates socio-economic and environmental needs of present and future generations (Section 5 b). This obviously speaks to the element of sustainable development with is echoing the requirements of the Constitution under Article 10(2)(d). The present generations should always take care that the needs of the future generations are not compromised as well as think of future generations. The economic, social and environmental needs are intertwined and none of them should be seen to be more important to the other. These are some of the national values and principles of governance.

The Act enumerates the purpose and objects of a county physical and land use development plan and one of them is ‘to enhance environmental protection and conservation’.¹⁵³ On the same note, The National Physical and Land Use Development Plan is the basis for— (a) environmental conservation, protection and improvement.¹⁵⁴ This calls for a national policy not only to conserve and protect the environment but also to improve the environment. This involves the ban of plastics and a well-planned systems of solid waste so as to adhere to the constitutional requirement of a clean and healthy environment.¹⁵⁵

3.2 THE INSTITUTIONAL FRAMEWORK THAT GOVERN SINGLE-USE PLASTICS

This section will briefly introduce the main stakeholders who deal with plastic waste management in Kenya. There are public agencies and the private sector institutions that deal with the solid waste management. Both these sectors cannot be considered as an exhaustive

¹⁵³ Section 37, Physical and Land Use Planning Act, no. 13 of 2019, Laws of Kenya.

¹⁵⁴ Section 22, Physical and Land Use Planning Act, no. 13 of 2019.

¹⁵⁵ EMCA, Section 3.

description and evaluation of all those who are concerned with the regulation of plastics in Kenya. The key ones include:

3.2.1 The Public Agencies

The public agencies are key in the constitutional mandate to a clean and healthy environment which is a fundamental right as enshrined in the Constitution. These agencies are well established and have clear mandates and objectives towards achieving the rights outlined in the Constitution. Some of these institutions are:

3.2.1.1 National Environment Management Authority (NEMA)

The National Environment Management Authority was established under Section 7 of Environment Management and Coordination Act 1999 [Revised edition 2018] which came into operation on 14th January, 2000. NEMA is a body corporate which has powers to sue and be sued, borrow money, enter into contracts among other responsibilities.¹⁵⁶ Stella Mbau speaking about NEMA states that this is the main body that ‘coordinates environmental management activities in the country’¹⁵⁷ and the authority is established to preside over general supervision and coordination over all matters relating to the environment. Actually this body helps the government in implementing all policies relating to environment.

NEMA co-ordinates environmental management activities and promotes integration of environmental considerations into development plans, projects, programmes and policies. It also takes stock of all natural resources in Kenya, how they are utilized, and conserved. The

¹⁵⁶ EMCA, Sec. 7(2).

¹⁵⁷ Stella Mbau, ‘Zero Plastic Waste For A Healthier Ecosystem: An Assessment Of Sustainable Waste Management In Runda Estate, Nairobi’ (Unpublished Thesis, University of Nairobi, 2012) <<http://erepository.uonbi.ac.ke/bitstream/>> accessed 12 July 2019.

Authority is further charged with the responsibility of establishing and reviewing land use guidelines in consultation with relevant lead agencies.¹⁵⁸

Heinrich Böll Foundation released a report that NEMA was established for the purpose of coordinating and supervising all matters related to the environment and for NEMA to be the principle instrument in the implementation of all policies relating to the environment in Kenya. The Global environmental concerns, which evoke Agenda 21, or the Global Plan of Action, address the pressing environmental problems of the 21st Century and reflect the global concerns and political commitment on restoring our environment and achieving sustainable development.¹⁵⁹

Further, one of objectives of EMCA is the coordination of the various environmental management activities being undertaken by the lead agencies and promote the integration of environmental considerations into development policies, plans, programs and projects with a view to ensuring the proper management and rational utilization of environmental resources on a sustainable yield basis for the improvement of the quality of human life in Kenya.¹⁶⁰ This is also reflected under Sections 12 and 148 of EMCA. Sections 57A, and 58 as read with the Second schedule of the EMCA where it states that ‘all Policies, Plans and Programmes for implementation shall be subject to Strategic Environmental Assessment’ which is a Constitutional requirement under Article 69(1)(f) where it states that ‘the State shall establish systems of environmental impact assessment, environmental audit and monitoring of the environment’.

¹⁵⁸ EMCA, Section 9.

¹⁵⁹ Protectors of Environment, ‘Mapping and Profiling Environmental Organizations in Kenya’, (*Heinrich Böll Foundation, 2006*)4 < <https://ke.boell.org/sites/default/files/protectorsofenvironmentpublication.pdf>>accessed 12 June 2019.

¹⁶⁰ EMCA Sections 9 (2)(a).

Section 142 of the EMCA, spells out fines and jail term imposed on offenders. Persons who pollute the environment contrary to provisions of this Act or those who discharge pollutants into the environment contrary to provisions of the same Act, upon conviction, are liable to a fine. This fine should not exceed five hundred thousand shillings. Together with the sentence the polluter may also be directed to pay full cost of cleaning up the polluted environment and of removing the pollution. He may also be compelled to clean up the polluted environment or remove the effects of the pollution as per the satisfaction of NEMA.¹⁶¹The court may also in its wisdom compel the polluter to meet the cost of pollution to any third parties through adequate compensation, restoration, or restitution.

On the General penalty it is stated that ‘any person who contravenes against any provision of this Act or of regulations made thereunder for which no other penalty is specifically provided is liable, upon conviction, to imprisonment for a term of not less than one year but not more than four years, or to a fine of not less than two million shillings but not more than four million shillings, or to both such fine and imprisonment (Section 144). These penalties may affect corporations especially those in industrial operations.

Sections 3 and 147¹⁶² of the EMCA Act gives Cabinet Secretary for Environment the power to come up with regulations and of which some are the Plastic Bags Control and Management Regulations, 2018.¹⁶³

¹⁶¹ NEMA, ‘Legislation and Policies’ (June 2019)
<https://www.nema.go.ke/index.php?option=com_content&view=article&id=133&Itemid=238> accessed June 10, 2019.

¹⁶² NEMA, ‘Ban on Plastic Bags’ (June 2019)
<https://www.nema.go.ke/index.php?option=com_content&view=article&id=102&Itemid=121#>accessed June 10, 2019.

¹⁶³ EMCA, ‘Plastics Bags Control and Management Regulations 2018’
<http://www.nema.go.ke/index.php?option=com_content&view=article&id=270&Itemid=420>accessed 12 June 2019.

The Authority is given the powers under Regulation 6(1) to authorize the produce, export or import, or the use of plastic flat bags for industrial packaging. Regulations 6(2), 6(3), 6(4), 6(5), 6(6), 6(7)¹⁶⁴ captures application to the authority to manufacture, import, export, or use of plastics for industrial use; fee to be paid while making an application; importance of submitting a recycling plan while applying; how the amount of money paid on application is arrived on; where the application fee shall be deposited; and the number of days it will take the authority to respond to the application.¹⁶⁵ Regulation 6(9) states that the application to manufacture, import, and export plastic bags for industrial use expires after a period of 12 months.¹⁶⁶

There are criteria that guides NEMA in deciding whether to authorize the use of any plastic bag for industrial packaging or not [and] the authority has to ascertain whether the packaging is required for product preservation and public health concerns¹⁶⁷ among other requirements.

Under regulation 10 the manufacturers, importers and users of plastics for industrial packaging are required to develop and maintain a plan for supporting collection and recycling of plastic bags.¹⁶⁸ They are required to submit a copy of the plan to NEMA which will finally post that plan in their website and the plan has to describe the recycling program to be implemented throughout the country. It has to give details on how the plan will be implemented, describe the performance measures to be used in documenting collection efforts for flat plastic bags.¹⁶⁹

From what is discussed above, it seems that the mandate of the CoK to the right to a clean and healthy environment is stressed on under the Constitution. This seems to be a law in theory not in

¹⁶⁴ Plastics Bags Control and Management.

¹⁶⁵ NEMA, 'Legislation and Policies, p.23.

¹⁶⁶ Ibid.

¹⁶⁷ Ibid, p.9.

¹⁶⁸ Ban on Plastic Bags, op.cit, 162.

<https://www.nema.go.ke/index.php?option=com_content&view=article&id=102&Itemid=121#> accessed June 10, 2019.

¹⁶⁹ Plastics Bags Control and Management Regulations, p.56.

practise and as we stated in the problem statement, the rate at which pollution in Kenya is occurring occasioned by plastic wastes, there is a problem. NEMA as an institution should devise methods of prohibiting the use of plastics and if they have to be used, then a better way of disposing them.

3.2.1.2 Kenya Institute for Public Policy Research and Analysis (KIPPRA)

This is an independent public institute that was established through a Legal Notice and operationalized in June 1999. President Kibaki signed the KIPPRA Bill into law in January 2007. The KIPPRA Act No. 15 of 2006 that came into force in February 2007 and it is a body established by an Act of Parliament.¹⁷⁰

Stella Mbau states that KIPPRA has an overall mandate of improving public policy making for realization of national development goals by way of conducting economic forecasting, policy analysis research, and formation of medium and long-term strategic perspectives for economic and social development.¹⁷¹

KIPPRA has engaged in many studies with a view to coming up with policy interventions to help in managing Municipal Solid Wastes. In a study done in 2005 together with UNEP and NEMA, it was realized that the Municipal Solid Waste in the City is characterized by minimal coverage of Municipal solid waste services, inefficient public services, uncontrolled dumping, unregulated

¹⁷⁰ Kenya Institute for Public Policy Research and Analysis (KIPPRA), 2007 <http://kippra.or.ke/?utm_source=MyJobMag&utm_medium=website> Accessed on 13 July 2019.

¹⁷¹ Stella Mbau, 'Zero Plastic Waste For a Healthier Ecosystem: An Assessment Of Sustainable Waste Management In Runda Estate, Nairobi' (Unpublished Thesis, University of Nairobi, 2012) <http://erepository.uonbi.ac.ke/bitstream/handle/11295/94367/Mbau%20Stella%20N_Zero%20plastic%20waste%20for%20a%20any%20eier%20ecosystem%20an%20assessment%20of%20sustainable%20waste%20management%20in%20Runda%20estate%20Nairobi.pdf?sequence=1&isAllowed=y> accessed 12 July 2019.

private sector participation, and lack of key solid waste management infrastructure. The re-use and recovery industry in the city's Municipal solid waste was also lacking.¹⁷²

The study recommended some policy interventions to address the challenges. The policy were to be introduced gradually. The policy packaged included the prohibiting of any plastic shopping bags that are less than 30 microns in thickness; carrying out awareness among the consumers and anti-littering campaign; collecting plastic bag levy from suppliers; putting in place a national code of practice for retailers; helping develop environmentally friendly alternative bags; supporting development of plastic recycling system; and supporting development of managed disposal system to cater for plastic bags.¹⁷³

3.2.1.3 Kenya Revenue Authority (KRA)

Kenya Revenue Authority (KRA) was established by an Act of Parliament in July 1995.¹⁷⁴ Its main purpose is to provide an effective tax administration in revenue collection and enforce the mobilisation of government revenue. In particular, the functions of the Authority are to collect, assess, and account for all revenues; to advice on matters relating to the administration of and collection of revenues.¹⁷⁵

KRA often surpasses targets set by the government for revenue collection. Hence, if assigned, it can collect eco-taxes [such as levies on plastic bags] satisfactorily. One arrangement is that KRA can be assigned to collect eco-taxes on commission basis.¹⁷⁶

¹⁷² KIPPRA 'Report on Policy Instruments for the Management of Plastic Bags in Nairobi. Pilot Project on Plastic Waste Management in Nairobi' (2006).

¹⁷³ UNEP, 'Selection, Design and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya', p.45.

¹⁷⁴ Kenya Revenue Authority Act Cap 469 Laws of Kenya

¹⁷⁵ Report on Policy Instruments for the Management of Plastic Bags in Nairobi. Pilot Project on Plastic Waste Management in Nairobi, p.56.

¹⁷⁶ Ikiara M, Karanja A, and Davies T, 'Collection, Transportation and Disposal of Urban Solid Waste in Nairobi' op.cit. p. 35.

3.2.1.4 County Governments

Part 2 of the fourth Schedule of the CoK explicitly provides that the County Governments shall be responsible for; refuse dumps, refuse removal, and solid waste disposal. Most of the county governments in Kenya have been working together with the national government in the ‘war’ in plastic management. There are a series of activities that the county governments are supposed to carry out in relation to ensuring that the constitutional mandate of clean and healthy environment is achieved. According to The National Solid Waste Management Strategy, February 2015, the Counties are expected to implement the minimum requirements across the waste management cycle; the collection and ensure that the areas of waste collection are zoned; Ensure regular and timely collection of all solid wastes either through door to door collection or from centralized collection points; Ensure waste collection facilities such as bulk containers, skips and waste cubicles are regularly emptied and do not become eye-sores; Waste transportation; Ensure that all the collected waste is transported using NEMA licensed vehicles to designated disposal sites.¹⁷⁷

The strategy further states that the county governments should ensure there are sites that are designated for waste disposal... it should also ensure all incoming wastes are weighed or estimated and the quantities recorded in tonnes. They should also ensure that the waste collected is spread, covered and compacted at regular intervals and put in place. There should be an appropriate control measures for the management of dumpsite fires and finally its states that effective waste management systems will deliver a clean and healthy environment for all as granted by the Constitution of Kenya, 2010.¹⁷⁸

¹⁷⁷ The National Solid Waste Management Strategy, February 2015, p.18.

¹⁷⁸ Ibid, p.77.

3.2.2 The Private Sector Institutions

These institutions work hand in hand with the public agencies in the task towards accomplishing the constitutional mandates. Some of these institutions include:

3.2.2.1 Kenya Association of Manufacturers (KAM)

This is the representative organization for manufacturing value-add industries in Kenya. This body was established in 1959 as a private sector body. KAM has evolved into a dynamic, vibrant, credible and respected business association that unites industrialists and offers a common voice for businesses. This organization offers a vital link for co-operation, dialogue and understanding with the Government by representing the concerns and the views of its members to the relevant authorities.¹⁷⁹

According to KAM, plastic waste management challenges are largely attributed to lack of public participation or even worse a very poor public awareness and perception on plastic waste.¹⁸⁰ The KAM underscores the role the key players in creating awareness and advocating for behaviour change. Through public awareness campaigns, the general public gets to appreciate the implications plastic waste management have on the environment, their health, and their livelihoods.¹⁸¹

According to Florah Mutahi, KAM appreciates that despite the huge economic benefits that plastics have come with, it has also massively contributed to solid waste, thereby shifting the global discourse to avenues for addressing proper and sustainable management of plastic solid

¹⁷⁹ Kenya Association of Manufacturers, <<http://kam.co.ke/about-kam/>>accessed 12 June 2019.

¹⁸⁰ Florah Mutahi, 'Managing Plastic Wastes Requires Fresh Thinking and a Holistic Approach' 2019 <<https://www.kam.co.ke/managing-plastic-waste-requires-fresh-thinking-and-holistic-approach/>> accessed July 4, 2019.

¹⁸¹ Richard Thomson and Others, 'Plastics, The Environment and Human Health: Current Consensus and Future Trends', 2013, p.12.

<<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2873021/>>accessed 12 June 2019.

waste.¹⁸² This has informed environmentalists and policy makers resolve, globally, to look for plastic alternatives like glass, paper, and other material hence the various discussion like the UNEA-4 in March 2019.

KAM is cognisant of the fact that development and progress of an economy are intertwined with waste management hence the institutionalization of best practices regarding plastics.¹⁸³ Endorsing the Ocean Plastics Charter commits the business community to sustainable design, manufacturing and after use markets, plastic collection management and other systems infrastructure through Extended Producer Responsibility (ERP) schemes.¹⁸⁴

The KAM is critical of banning plastics all together. It advocates for rolling out an efficient and sustainable method of managing wastes. KAM is of the view that the local manufacturers are dedicated to a responsible business practices that are geared to environmental conservation. However, the challenge of plastic is not to be attributed to the manufacturers but the mode of management and consumer behaviour of the plastic wastes.¹⁸⁵

Actually after the ban of plastics KAM moved to court to contest against the ban of plastic carrier bags. In this case, *Kenya Association of Manufacturers Vs. Cabinet Secretary, Ministry of Environment and Natural Resources and Others (ELC Petition No.32 of 2017)* the petitioner was of the view that:

¹⁸² Ibid.p.13.

¹⁸³Paolo Paron, Daniele Olago and Charles Omuto, 'Kenya: A Natural Outlook Geo-Environmental Resources and Hazards' (Netherlands: Elsevier; 2013) 255.

¹⁸⁴KAM, 'Manufacturers Endorse Global Charter on Plastic' (June 2019)<<http://kam.co.ke/manufacturers-endorse-global-charter-on-plastics/>> accessed June 10, 2019.

¹⁸⁵ Florah Mutahi, 'Managing Plastic Wastes Requires Fresh Thinking and a Holistic Approach', p.87.

i) A declaration that Gazette Notices Nos. 2356 and 2334 of 2017 published in Kenya Gazette of 14th March, 2017 banning the use, manufacture and importation of all plastic bags used for commercial and household packaging are unconstitutional, null and void as they were issued;

a) without public participation contrary to Articles 10 and 69(1) of the Constitution, and Section 5 of the Statutory Instruments Act, 2013 and;

b) without the requisite statutory authority and in contravention of Sections 5, 6, 8 (1), 11(1) and (2) of the Statutory Instruments Act, No 23 of 2013.

(ii) A declaration that the respondents have violated the rights of the petitioner under Article 47 of the Constitution and Sections 5 and 6 of the Fair Administrative Action Act, No. 4 of 2015.

(iii) An order quashing Gazette Notices No. 2356 and 2334 of 2017 banning the use, manufacture and importation of all plastic bags used for commercial and household packaging.

(iv) An order prohibiting the implementation of Gazette Notices No 2356 and 2334 of 2017.

(v) Such other and/or further relief as this honourable court may deem fit and just to grant

In response to this petition, the Court held that basing itself on Articles 42 and 69 Of the Constitution of Kenya 2010 and section 3 of EMCA as amended by EMCA, 2015 which provides that:

1) Every person in Kenya is entitled to a clean and healthy environment in accordance with the Constitution and the relevant laws and has the duty to safeguard and enhance the environment.

2) The entitlement to a clean and healthy environment under subsection (1) includes the access by any person in Kenya to the various public elements or segments of the environment for recreational, educational, health, spiritual and cultural purposes.

In the famous case between *Peter K. Waweru v Republic*¹⁸⁶ it was held that ‘all persons are entitled to the right to life and in the courts view the right to life is not just a matter of keeping body and soul together because in this modern age that right could be threatened by many things including the environment. The right to a clean environment is primary to all creatures including man, it is inherent from the act of creation, the recent restatement in the Statutes and the Constitutions of the world notwithstanding’.¹⁸⁷

From the above it is clear that KAM has also a significant role to play in the fight against plastics. With the president and NEMA speaking to the effect of banning manufacturing, import and use of bottle plastics from 2020, KAM has the stakeholders not to prohibit plastics but to support recycling at all levels and this seems the way to move.¹⁸⁸

3.2.2.2 Kenya National Cleaner Production Centre (KNCPC)

KNCPC is an autonomous non-profit institution established in July 2000 as a project of two organization-The United Nations Industrial Development Organisation (UNIDO)¹⁸⁹ and the Kenya Industrial Research and Development Institute (KIRDI).¹⁹⁰

The Centre’s key objective is to build national capacity in preventing environmental management tools through a number of approaches comprising, among others, policy advice,

¹⁸⁶ *Peter K Waweru v Republic [2006]eKLR.*

¹⁸⁷ *Peter K Waweru v Republic [2006]eKLR.*

¹⁸⁸ James Kariuki, ‘Manufacturers Move to Stop Plastic Bottles Ban’, (September 12, 2018) <<https://www.businessdailyafrica.com/corporate/companies/Manufacturers-move-to-stop-plastic-bottles-ban/4003102-4756742-2wetbvz/index.html>>accessed 17 August 2019.

¹⁸⁹ UNIDO has a mandate of promoting and accelerating inclusive and sustainable industrial development (ISID) in Member States.

¹⁹⁰ Kenya National Cleaner Production Centre, 2006 <http://www.cpkenya.org/index.php?option=com_content&view=article&id=247&Itemid=387> accessed 11 July 2019.

technical support, and cleaner technology transfer as had also been discussed in UN General Assembly in Rio de Janeiro in 1992.¹⁹¹

According to one of the ‘priority sub-sectors’ ear-marked by the Centre for cleaner production strategy and implementation is the plastic industry.¹⁹² To this end, KNCPC is working with concerned stakeholders, especially with the plastic manufacturers to come up with a lasting solution to the plastic waste management problem in Kenya and more the single use plastics which are a key menace to the environment.

3.2.2.3 PETCO Recycling Company

The PETCO¹⁹³ recycling company is an offshoot of Kenya Association of Manufacturers and in 2017 it partnered with the Government of Kenya to kick off a PET recycling initiative to ensure there is sustainable solution to the plastic waste management in Kenya. This is a win-win initiative between industry stakeholders and KAM that will ensure the industry works hand in hand with the government to guarantee that there is a sustainable solution for all parties.¹⁹⁴ The initiative intended to use PETCO South Africa’s Model to ensure PET bottles and wastes are collected and successfully recycled. The success of the initiative was pegged on enrolment of members of the public who could help in proper disposal of plastic bottles for recycling. Recycled PET can be used in making athletic shoes, automotive parts, fabric for T-shirts,

¹⁹¹ Report of The United Nations Conference on Environment and Development (Rio De Janeiro, 3-14 June 1992) <<https://www.un.org/documents/Ga/Conf151/Aconf15126-3.htm>> accessed 11 June 2019.

¹⁹² Ralph Andrew Luken, and Frank Van Rompaey, ‘Environment and Industry in Developing Countries: Assessing the Adoption of Environmentally Sound Technology’ (Massachusetts: Edward Elgar Publishing Limited 2007)168.

¹⁹³ Polyethylene Terephthalate (PET), is a form of polyester that is extruded or moulded into plastic bottles and containers for packaging foods and beverages, personal care products, and other consumer products.

¹⁹⁴ KAM Rolls out PET Waste Management Initiatives in Kenya, 2019, <<http://kam.co.ke/industry-task-force-rolls-pet-waste-management-initiatives-kenya/>> Accessed on 12 June 2019.

polyester carpet fibre, fabric for T-shirts, and industrial strapping. The recycling process will also create job opportunities.¹⁹⁵

The Kenya PET Recycling Company and the Kenya Association of Manufacturers signed a deal on holistic management of plastic bottles. Manufacturers, through KAM and PETCO Kenya, agreed to jointly develop strategies, initiatives and infrastructure to promote efficiency of collection, processing and recycling of plastic bottles. They said this will improve socio-economic growth, especially among waste collectors.¹⁹⁶

3.3 CONCLUSION

From the above analysis, it is obvious that the country has some laws and regulations to curb plastic waste proliferation and pollution of the eco-system. It can be concluded that Kenya's legal and institutional framework is fairly robust and addresses many of the most important challenges facing environmental management in a modern state. The research has captured some key legal and policy frameworks governing plastic pollution in Kenya. The Constitution of Kenya is very crucial in this regard and Articles 10,42, 69 as well as 70 address the issue on the right to a clean environment and how the county and national governments have responsibility of removal of the refuse, refuse dumping and solid waste disposal. The section also makes an analysis of how the constitutional mandate of the right to a clean environment have been embraced by the Public Health Act, EMCA, the various County governments, and recently promulgated Physical and Land Use Planning Act, No.13 of 2019. The current legislation is quite comprehensive, though gaps never lack in such cases. Some writers like Leah Kihuria state

¹⁹⁵ Florah Mutahi, *Managing Plastic Wastes Requires Fresh Thinking and a Holistic Approach*, p.89.

¹⁹⁶ Magdaline Saya, 'Plastic Bottle Packagers Join Fight Against Plastic Pollution' (*The Star*, 3 December 2018) <<https://www.the-star.co.ke/news/2018-12-03-plastic-bottle-packagers-join-fight-against-plastic-pollution/>> accessed 20 September 2019.

that despite the presence of legislative and institutional frameworks governing solid waste management, there is rampant littering and illegal dumping of plastic bag waste.¹⁹⁷ The institutional framework divided in to public agencies and the private sector institutions speaks to how various agencies like NEMA, KIPPRA, KRA, KAM, and PETCO Recycling Company have contributed to the ban on the solid waste disposal more so the plastics. However, there are loopholes in the law and the institutional operations hence the need to make suggestions and recommendations on how to ensure compliance with the set laws and regulations.

¹⁹⁷ Kihuria Leah Wanjiku, Kihuria Leah Wanjiku, 'Legislative and Institutional Frameworks Governing Solid Waste Management in Kenya: Case of Plastic Bags in Nairobi'p.100.

CHAPTER FOUR:

THE CHALLENGES, GAPS, SUCCESSES AND INNOVATIONS IN THE REGULATORY FRAMEWORK GOVERNING SINGLE USE PLASTICS IN KENYA

4.0 INTRODUCTION

In this chapter, we will discuss on the various challenges, gaps, successes and also the possible innovations in the regulatory framework towards the management of plastics in Kenya. In order to achieve socio-economic, political and environmental benefits, then, there is a need of striking a balance of interests by all stakeholders. When this balance is achieved, then all the benefits, successes, and even innovations will be achieved. If the same is missing then there will be challenges and gaps in the implementation of the law in relation to the manufacturing, importation, use and disposal of plastics in Kenya. In Kenya there is low compliance to environmental legislation weak enforcement and lack of awareness on the legislations. The National Sustainable Waste Management Policy, 2018 says that:

“Waste is a resource that can be managed to achieve economic, social and environmental benefits. Addressing the waste management challenge effectively in Kenya is critical to delivering on Kenya’s constitutional right to a clean and healthy environment for all, advancing the circular economy to create green jobs and wealth from the waste sector, and advancing the nation’s sustainable development goals.”¹⁹⁸

To achieve these goals, there are laws and policies in place which ought to act as a guide for all Kenyans in relation to manufacturing, import, use and disposal of plastics. There are some successes that have been achieved like clean cities and towns, reduced plastics in the informal settlements among others. But despite the successes that have been reached so far, the Waste Management Policy 2018, states that;

¹⁹⁸ Republic of Kenya, Ministry of Environment and Forestry, ‘National Sustainable Waste Management Policy Ministry of Environment and Forestry’ (Sessional Paper No. X of 2018) 4.

“initiatives to date have not tackled the fundamental problems of waste minimization and re-use as core elements of the circular economy, waste collection, waste separation at source and recycling, compost production from organic waste, and final disposal of non-recyclable in secure engineered facilities. The country has not taken action at the scale necessary to have the desired impact in the face of the scale of the challenge.”¹⁹⁹

It further states that the economy of Kenya grows at an accelerated rate consequent to devolution, thus the country’s waste management challenges have reached major proportions. The current poor state of waste management is both a private and a public health and environmental threat, leading to the loss of a valuable resources for job and wealth creation, and an eyesore that negatively affects tourism (a key source of revenue to Kenya) and the wellbeing of all Kenyans.²⁰⁰

It is for some of these negative effects that the prohibition of plastic carrier bags was effected in August 2017. This was to aid in the management of plastics though not all. Unfortunately, the ban has not been rendered effective and as plastics of all kinds in Kenya are still widely being used in food markets, some retail shops among others places. It can also be said that the ban exempted some of the plastics like SUPs which actually are some of the major causes of environmental pollution. Then it is obvious that there are gaps and challenges which need to be addressed if this country has to be constitutionally compliant to the laws in place.

Despite the gaps and challenges there are some successes that have been achieved out of the ban and some counties like Makueni have been on the fore front in ‘war against’ use of plastics and 90 per cent of the habitants of this count have been reported to use the available alternatives.

¹⁹⁹ Ibid, p.7.

²⁰⁰ Ibid, p.4.

Much has not been achieved though as some major cities are still using plastics bags hence the need of alternatives that can serve as means of adherence to the law if a clean and healthy environment has to be achieved.

4.1. CHALLENGES IN PLASTIC WASTE MANAGEMENT IN KENYA

All in the society are faced with the challenge of waste management. Phyllis Wakiaga in a research on the management of wastes as a shared responsibility noted that:

“The challenge in waste management is multifaceted; it ranges from the generation of waste, separation, behavior change, collection, transport, treatment, re-use, disposal and recycling. It is a problem that must involve all stakeholders at diverse levels; from households, traders, manufacturers, private sector companies and governments. Every individual has a role to play to make this world a better place.”²⁰¹

From Wakiaga’s observation, it is obvious the management of solid wastes in Kenya does not involve the government at both levels but all citizens who as she said in one of her observations, behavior change and re-use can be achieved by all.

According to the NSWM Strategy, 2018, it was pointed out that the management of solid wastes in Kenya has remained a major challenge due to diverse factors. These challenges range from problems associated with “attitudes and practices, poor waste management systems, lack of knowledge and awareness, attitude and practices, political will, technological and financial resources”.²⁰² Even with the laws, policies and institutions in place, there are still challenges and as pointed out under Chapter One, 1.8.1.2 Theory of Planned Behaviour, if man does not change his behaviour and attitudes towards the environment, then nothing much in terms of a clean and healthy environment will be achieved. Some of the Key challenges pointed out will be discussed in the section with an aim of seeking for a lasting solution and proposals.

²⁰¹ Phyllis Wakiaga, ‘Waste Management is a Shared Responsibility’ < <http://kam.co.ke/waste-management-shared-responsibility/>>accessed 23 September 2019.

²⁰²The National Solid Waste Management Strategy, 2015, p.60.

4.1.1. The Attitude Towards Solid Waste Disposal

In different parts of the world, studies have been carried out on people attitude on solid waste disposal and how they impact the environment. Some Nigerian scholars like Eneji and Others in their study ‘Waste Disposal and Waste Management’ noted that the residents of Calabar South (Nigeria) have a very negative attitude towards waste management and disposal, and because of this, many of them have their health’s affected as well as the environment is too.²⁰³

The NSWM Strategy links knowledge, awareness and management of solid wastes where it clearly states that:

“[...] there is a limited awareness and knowledge on the importance of a clean and healthy environment. This has led to poor practices by the public towards waste management which has led to environmental pollution. As such there is poor handling of waste at the household level including lack of segregation, re-use, reduce and recycling.”²⁰⁴

This is also pointed out the Solid Waste Management Policy, in Murang’a County where the policy states that ‘negative attitude towards waste management and failure to take individual responsibility has contributed to poor practices such as littering, illegal dumping and open burning’.²⁰⁵ In our research at the Theoretical framework, we stated that the throw away culture has also become a norm in Kenya and these among other attitudes have contributed to poor practices such as littering, illegal dumping and open burning which in turn harm the environment.

²⁰³ Eneji, O and Others, ‘Attitude towards Waste Management and Disposal Methods and the Health Status of Cross River State, Nigeria’ (SCIREA Journal of Agriculture, Volume 1, Issue 2,2016) <http://erepository.uonbi.ac.ke/bitstream/handle/11295/104184/Grace_Uwamwezi_FINAL_THESIS.PDF?sequence=4&isAllowed=y>accessed 13 May 2019

²⁰⁴ Ibid,p.23.

²⁰⁵ Murang’a County, Ministry of Environment, ‘Solid Waste Management Policy, 2017,6’<<http://muranga.go.ke/wp-content/uploads/2017/06/SOLID-WASTE-MANAGEMENT-POLICY-Municipality.pdf>>accessed 24 August 2019

4.1.2 Limited/ Lack of Disposal sites

Chapter Two of this study pointed out that land is scarce in Kenya and even if different modes of waste disposal can be proposed land availability remains a challenge. According to the NSWM Strategy, in situations where the land and space is available and there is a possibility of dumping solid wastes, the neighboring communities and residents are opposed to it as they claim that this would be in their backyard. Then with this they will dump wastes at some environmentally sensitive areas such as river banks, forests and wetlands.²⁰⁶ This has become a norm no wonder in Kenya we have had many complains that Nairobi river has been a dumping place which is not supposed to be.

It is also the mandate of the national and county government to ensure that land is available for waste disposal. A case at hand is *Peter K. Waweru v Republic*²⁰⁷ where the court stated that having the responsibility to deal with matters of public health in its jurisdiction places the County Council in a position of public trust to manage the land resources in the township so as to ensure that adequate land is available for treatment works.

As mentioned under the statement of problem, Kenya does not have a single sanitary landfill and the one that had been proposed by Murang'a County seems to be a nightmare which means that the areas of disposal of solid waste remain as they are. The situation will remain as it is or even worsen as the population in the major cities is still growing up and lack of proper disposal of solid wastes including plastics will remain serious challenge.

4.1.3 County Government Laws

After 2010 and with the creation of the 47 counties in Kenya, each county operates as a separate entity from the national government. The county government under the constitutional provisions

²⁰⁶ Ibid, 12.

²⁰⁷ [2006] eKLR

make laws and policies proper to each of them. Some of them have enacted laws and regulations relating to the environment. The laws have been derived from the constitution and EMCA.

In his study, Girum Bahri drew attention of the readers to the Public Health Act sections 116 and 117. Quoting the Act he said that it required that the ‘counties formerly known as (Local Authorities) to take responsibility for the maintenance of cleanliness and prevention of danger to health from ‘unsustainable dwellings’. By virtue of section 126A, each county is also required to make by-laws that regulate, among others, the construction of buildings and sanitary facilities for drainage and sewer.²⁰⁸ NCC for instance is supposed to play an integral role in plastic waste management. For instance, the city by laws in relation to solid waste management states that:

“Occupiers/tenants of any building/trade premises must have a sizeable container with a good lid in which the daily domestic waste should be kept, domestic and trade premises occupiers and owners shall separate recyclable waste and place in a separate containers which are provided/approved by the council, premises owners/occupiers of the premises should ensure hazardous/clinical waste in managed to the satisfaction of the council and burning, throwing away etc. of a waste in an appropriate place is an offense.”²⁰⁹

There are also other counties like Makueni and Murang’a that have made laws equally advocating for a clean and healthy environment which has been key in the accomplishment of the mandate of the constitution.

However, some roles played by the central government often clash with those of the council thereby making it difficult to fully enforce by-laws. Some roles are also duplicated hence causing unnecessary tension and extra expenses for both the county and national governments.

²⁰⁸ Girum Bahri, ‘Sustainable Management of Plastic Bag Waste’, op.cit, p.138.

²⁰⁹ Nairobi City County By-Laws, no.3< file:///C:/Users/1/Downloads/CITY-BYLAWSd41d.pdf> accessed 13 July 2019

4.1.4 Lack of policies addressing roles of CBOs and Private Sector players

There are many players in the field of collection and disposal of SWM in Kenya. The only key challenge that they face is lack of policies and guidelines in relation to their duties. Despite the fact that CBO's play a central role in garbage collection, they have not been incorporated into the formal system. Policies based on Community Based SWM are still lacking. Some SWM guidelines states that the existing policies only emphasize development of environmental partnerships with stakeholders like environmental NGOs and CBOs' and clearly not the collection and disposal of SWM.²¹⁰

4.1.5 Operationalization of Economic Incentives in EMCA

The SWM Strategy states that many economic tools have been envisaged in policy documents to promote good practices in the management of the solid waste sector such as re-use, reduction, recovery of materials and recycling. Legal and policy frameworks have taken into consideration economic incentives like subsidies, tax rebates, and exercise waivers. For example under Section 57(1) of the EMCA, the Cabinet secretary in charge of finance has authority to propose fiscal incentives to encourage proper management of environment upon being advised by the National Environment Council.²¹¹

It goes further to state that such fiscal policies could be adopted at the custom and excise waivers on imported goods which according to the laws and policies are known to reduce environmental degradation, tax rebates on industries that produce goods that help in pollution control, and tax disincentives that deter bad environmental behaviour to mention but a few.²¹²

²¹⁰ *Thematic Guidelines on Solid Waste Management* (JICA, 2009) <http://www.jica.go.jp/activities/issues/env_manage/pdf/haiki_e.pdf> accessed 13 May 2019

²¹¹ Environmental Management and Co-Ordination Act, No.9, 2018(1999) Laws of Kenya.

²¹² EMCA, Section 57(2)(b).

But despite these proposals, there are few policies which even do not address the problem of SUPs hence the aggravating situation of pollution arising from poor disposal of plastics. The once in place are not implemented due to lack of awareness or even the attitudes of the various stakeholders arising majorly from personal interests. Some of the stakeholders will claim that they were not consulted hence the lack of public participation. But how can one compromise matters health at the expense of lack of public participation? All these arise from personal interests of the various stakeholders.

4.1.6 Lack of Segregation of Solid Waste

Behaviour change in the management of solid wastes has been discussed in Chapter One of this study. The Solid Waste Management Policy, 2018 has dwelt much on some of the practices that can help in the management of solid wastes in Kenya. The policy outlines several challenges and one of them is the lack of segregation at the point of collection. According to this policy it states that:

“Lack of waste segregation at source leads to mixed wastes which are collectively disposed of in the dumpsites. Where sorting is done, the problem is compounded by the lack of compartmentalized vehicles for transportation of the sorted waste leading to the remixing. This hampers material recovery, re-use, and recycling. The sorting has largely been relegated to the lowly in society such as the waste pickers and street urchins.”²¹³

According to Phyllis Wakiaga ‘The City county of Nairobi during the leadership of Evans Kidero (the then Governor of Nairobi County) and John Gakuo managed to have people segregate solid wastes but this was faced with some challenges which were multifaceted ranging from individual behaviors in the separation of the various types of wastes, the collection and even transport of the various wastes’.²¹⁴ These challenges among others call all stakeholders at

²¹³Sessional Paper No. X , The National Sustainable Solid Waste Management Policy,2018.

²¹⁴ Phyllis Wakiaga, ‘Waste Management is a Shared Responsibility’ < <http://kam.co.ke/waste-management-shared-responsibility>’.

diverse levels to take active roles in the management of the various types of solid wastes so as to get to a sustainable solid waste management in Nairobi as well as the other parts of the country. But the key question that arises as to ‘whose responsibility is it to manage solid wastes in this country and what can be done to have an effective segregation of solid wastes in Kenya if at all a clean and healthy environment will be achieved?’

4.2 GAPS IN REGULATORY AND POLICY FRAMEWORK

In spite of the existence of a significant body of legislations, there are still gaps within the law as well as lack of implementation of existing laws. This is evident in the haphazard manner in which the disposal, collection and transportation of waste is carried.²¹⁵

In relation to this, Otieno states that it is in Kenya wastes remain uncollected in the residential areas and when collected, it is eventually burnt to reduce its volume. Unfortunately, not all is biodegradable especially the plastics. Kenya lacks a reliable waste management system that can keep track of the waste generated, collected, transported, and eventually disposed.²¹⁶ The barriers that we will discuss here come about as a result of lack of legal/policy frameworks with which plastic wastes can be properly managed or inability of institutions charged with enforcement of regulations and policies to see to it that waste is properly managed. We will focus on the gaps in law in relation to the various categories of plastic wastes, lack of awareness/ information and the penalties/ corruption occasioned by the gaps in law.

4.2.1 Lack of Categorization in the Law on the Various Types of Plastics

Some of the Laws, policies, strategies and guidelines in place do not give a clear categorization of plastics and what is meant by SWM. It is often left at the discretion of the public to make an

²¹⁵Ibid.

²¹⁶ Simeon Otieno, ‘Impact of Poor Solid Waste Management in Kenya’, [Unpublished Thesis, University of Nairobi], 2009.

interpretations which at times are wrong. It is a constitutional right to enjoy a clean and healthy environment. It is on this basis that a Special Gazette Issue of the 14th March, 2017²¹⁷ was issued on the prohibition of all plastic carrier bags and flat bags that are used for commercial and household packaging. There was an exemption of the plastic bags that are used for primary industrial packaging, so long as they were used for industrial primary packaging at the source of the product and are not available for sale at the counter or given freely outside the industrial setting. The prohibition went further and exempted the disposal bags for handling of biomedical and hazardous waste and garbage bin liners.

This meant that some plastics could still be used but all had to be well labelled. Unfortunately, some people took advantage of this exemption and they are still using the forbidden plastics. The plastics that are used to pack foodstuffs like sugar are still in circulation even after the ban.

Prior to the ban in 2017 The Nairobi City County Act no.5 on solid waste management of 2015 gave some guidelines on the separation and handling of waste where under section 25 (1) states that: Every generator of solid wastes shall separate or cause to be separated the waste into various categories including organics, plastics, paper, metals and any others that may be provided for in the regulations. Section 25 (2) states that the segregated waste referred to in subsection (1) shall be respectively contained separately in the approved containers for such category of waste prior to collection or other handling as appropriate and lastly section 25 (3) states that every generator shall ensure that there is an appropriate collection and transportation of the different wastes separated.

²¹⁷ Gazette Notice No. 2356 dated 28 April 2017.

Earlier in 1999 EMCA stated that the Cabinet Secretary shall prescribe standards for waste, the classifications and analysis, as well as formulate and advise on standards of the available methods of disposal and the means for such wastes; or issue regulations for the handling, storage, transportation, segregation and destruction of any waste.²¹⁸ This section of the Act is very instrumental if at all the constitutional requirement of a clean and healthy environment will be achieved in Kenya. The laws in place speak of plastics and segregation of solid wastes but do not mention anything like single use plastics hence the continued use and poor disposal of same.

The fact that the ban exempted some plastics like the SUPs is what should be questioned here. This is because the major cause of environmental harm and pollution are the SUPs of which recently there has been a call to ban them. But the KAM is against the ban but proposes for alternatives other than the ban. The questions of *lacunae* in the existing law and this is what actually motivates the researcher to study the existing gaps with a view of making some proposals on how best these laws can be implemented to address this.

4.2.2 Campaigns and Clear Informative Laws

The importance of campaigns and environmental education is underlined by all stakeholders [especially in Kenya]. For Karen P Winterich and Gergana Nenkov, they stated that;

“There is a need of informing and educating consumers [...] who could also be tailored to promote re-use culture as against use-and-throw consumerism. The only questions that might be raised are on their (goal and cost) effectiveness. Understandably, such measures must be designed and implemented carefully for satisfactory results and of course without neglecting cost implications.”²¹⁹

²¹⁸ EMCA, section 86 (3) and (4)

²¹⁹ Karen P Winterich and Gergana Nenkov, *People recycle more when they know what recyclable waste becomes*, 2019, p.67.

But despite the fact that Karen and Gergana are for idea of consumer education and campaigns, it is time that the penalties stipulated in the laws and policies at hand be followed to the letter. It seems that many people are aware of the prohibitions and because of weak laws that that gaps, like the exemption of some plastics from ban, then, this creates an avenue for a culture of continued use of plastics. With due consideration to (the goal and cost) effectiveness, the instruments in place can be utilised as support instruments in endeavours to tackle the problem in Kenya.

4.2.3. Penalties and Corruption

The penalties are well outlined in the policies but due to corruption then people are still reaping from the state. The penalties imposed in Kenya on the breaking of the law on use of the single carrier plastics are the world's most punitive. It involves the manufacturers, illegal importers, distributors, and users who will face up to \$38,000 in fines or four years in prison.²²⁰

Kenya just like any other Country is faced with a lot of corruption as even after the ban, the single carrier bags are still in circulation. For Laura Parker she noted that 'even after the ban took effect in August 2018, there was the creation of "bag cartels" that smuggled illegal plastic bags from neighboring Uganda and Tanzania'(which has then banned the use f plastics).²²¹ This is the fact as we have seen some business men and women who still keep the plastic carrier bags and one wonders where they get them from if the manufacturers do not manufacture same in Kenya. Hopefully with the ban of plastics in Tanzania, the situation will change as the only threat will be Uganda.

²²⁰ Laura Parker, *Plastic Bag Bans Are Spreading. But Are They Truly Effective? Kenya Has The Strictest Penalties For Bag Use, But The Consumer Alternatives To Plastic Have Come With Growing Pains*, April 17 2019 < <https://www.nationalgeographic.com/environment/2019/04/plastic-bag-bans-kenya-to-us-reduce-pollution/>>accessed 12 July 2019

²²¹ Laura Parker, *Plastic Bag Bans Are Spreading. But Are They Truly Effective? Kenya Has The Strictest Penalties For Bag Use, But The Consumer Alternatives To Plastic Have Come With Growing Pains*, April 17 2019.

4.3 SUCCESSES OF REGULATORY FRAMEWORKS AND POLICIES

Despite the gaps and challenges, there are some successes that have been achieved in the management of plastic wastes. The Constitution of Kenya 2010 sets out a commitment to ecologically sustainable development. Indeed, schedule 4 devolves some aspects of waste management to the county level. The Sessional Paper No. 10 of 2012 on Kenya Vision 2030 establishes the goal of Kenya becoming a middle-income country providing a high-quality life to all its citizens by the year 2030. If then the goals expected to have been arrived at by 2030, there is a need of keeping to the constitutional mandate and a clean and healthy environment is necessary as if this is lacking, then most of the goals will not be achieved. It is true that Poor waste management poses a significant challenge to these sustainable national development goals.

4.3.1 Protection of Environmental Rights

Considerable gains have been realized with regards to the policy and legal/regulatory frameworks for solid waste management in the past few years. EMCA 1999 has reached a milestone in guaranteeing environmental rights as suggested under Section 3A in realms of environmental management.²²² One of such milestones is the right to a clean environment allocated to citizens. The citizens have an express authority that compels all solid waste dumpers to pay for the harm caused to the environment. One major impediment to this has been the cost of litigation.²²³ NEMA has also been given the right to license, through lead agencies like councils, waste disposal facilities.²²⁴

There have been a series of cases in relation to the protection of rights of all Kenyans rights in relation to a clean environment. The most recent controversial projects that have threatened the

²²² Ibid.

²²³ UNEP, *Selection, Design and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya: The Case of Plastic Bags*, 2005.

²²⁴ UNEP, *Selection, Design and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya*, 2005.

right to a clean and healthy environment in Kenya include the Lamu Port South Sudan – Ethiopia Transport Corridor (LAPSSET) and the proposed Lamu Coal Powered Plant. In their judgment in Petition 22 of 2012 between *Mohamed Ali Baadi and Others v The Hon. Attorney General and 11 Others*²²⁵ the court, in addressing the issue of whether the petitioner’s right to public participation was violated, stated that there was inadequate stakeholder consultation hence raising the need for a robust public participation process before the project is implemented.

The court also acknowledged that implementing the project as is, would potentially threaten the right of community members to a clean and healthy environment. Similarly, the proposed Lamu Coal Powered Plant has raised controversies following the issuance of an EIA license by the NEMA which has made residents and activists from Lamu raise protests that have culminated in proceedings before the National Environmental Tribunal (NET) seeking to challenge the issuance of the license. Among their concerns was the failure of the project proponent to carry out effective public participation given that the project poses a high threat to their right to a clean and healthy environment.²²⁶

4.3.2. Environmental Management and Co-ordination Act, 1999

The Kenyan parliament in 1999 passed the Environmental Management and Co-ordination Act (EMCA) which came into force in January 2000. NEMA is the main body that was established by the Act coordinate environmental management activities in every county and the nation as a whole.²²⁷ There are key sections of EMCA that are worthy discussing here. For instance, Section 3 provides every person with the right to a clean and healthy environment that grants the citizens the duty to safeguard the environment.

²²⁵ *Mohamed Ali Baadi and Others v The Hon. Attorney General and 11 Others eKLR (2018)*.

²²⁶ John Kamau, ‘Power, Politics and Economy of the Coal-Fired Plant in Lamu’ Daily Nation (10 April 2018) accessed 9 October 2019.

²²⁷ *Community Guide to Environmental Issues and to the Environmental Management and Coordination Act, 1999* (ELCI, Nairobi 2005).

Just like the Constitution, the EMCA provides that, a person who alleges that the right to a clean and healthy environment has been violated or is threatened can apply to the Environment and Land Court (ELC) for redress on their own behalf, on behalf of others or in association with others.²²⁸

A case at hand is *County Government of Kitui v Sonata Kenya Limited & 2 others*²²⁹ where the petitioner claimed that the respondents were granted an Environmental Impact Assessment license for asbestos disposal site (*landfill*) at Ngai Ndethya Ranch, a water catchment area which feeds into Thua River on plot number Nzambani/Maluma/690; that the Water Resources Management Authority ordered the Respondents to cease any dumping of asbestos at Maluma Location which is a water catchment area and that the license procured from the Respondents is for the disposal of asbestos which are classified as high risk, harmful and hazardous materials that neither decompose, decay nor burn and once inhaled, the fibers may cause mesothelioma cancer, lung cancer and asbestosis. The Court held that all people have rights to a clean and healthy environment by dint of Article 42 of the constitution and section 3 of EMCA. The mandatory injunction was issued that compelled all the Respondents to identify and relocate the asbestos which had been deposited on the suit land to a different and suitable site, within 15 days, and dispose the waste in accordance with the provisions of the EMCA pending the hearing and determination of the Petition and a prohibitory injunction issued that was prohibiting the Respondents from depositing any hazardous waste on parcel of land known as Nzambani/Maluma/690 pending the hearing and determination of the Petition.²³⁰

²²⁸ EMCA Section 3(3).

²²⁹ [2018] eKLR

²³⁰ *County Government of Kitui v Sonata Kenya Limited & 2 others* [2018] eKLR.

The Act also demands that every person whose activities generate waste must ensure that the waste is minimized through treatment, reclamation, and recycling (Section 87). In the *African Centre for Rights And Governance (ACRAG) & 3 others v Municipal Council of Naivasha*, the court held that the County Government of Nakuru, was to engage personnel and measures to immediately collect all plastic bags that littered the area and to ensure that on a daily and continuous basis, plastic bags will continue being put aside for incineration or other forms of destruction so that the area is not prone to these. The County Government of Nakuru, must also forthwith, if it intends to continue using the site as a dump, apply for the requisite license from NEMA, as required by Sections 87 and 88 of EMCA and such application must be made within 14 days from today.²³¹

Section 142 (1) stipulates that any person who pollutes the environment through them discharge of dangerous materials into the water, land, air or the aquatic is guilty of an offence; it also lays down penalty provisions to the effect that if justified, the court may demand the person in question to pay ‘the full cost of cleaning up the polluted environment’; in addition, the court may order the polluter to pay any third party who has incurred damages due to the pollution.²³²

Part V, Section 57, sub-section I makes provisions for the use of taxes and other fiscal incentives, disincentives or fees “to promote or induce the proper management of the environment and natural resources or the prevention or abatement of environmental degradation”. UNEP asserts that with the enactment of EMCA and consequently the creation of

²³¹ Ibid.

²³² *Community Guide to Environmental Issues and to the Environmental Management and Coordination Act, 1999.*

NEMA as an implementing authority provide strong institutional base for the use of economic instruments to manage environmental problems from plastic shopping bag waste.²³³

4.3.3 Environmental Impact Assessment and Audits

The failure to carry out the study and submit a report was meant to conceal material information and fail to reveal the nature of their activities and the environmental impact which unfortunately the Respondents had been polluting the environment by discharging raw effluent into River Nyamasaria.²³⁴ The Court issued a declaration that the transfer of the certificate of variation of EIA license No. 0000151, and issuance of the transfer certificates of EIA license in favour of the Respondents without carrying out EIA studies and submitting the Reports for approval was unconstitutional, illegal and contravenes Sections 58, 59, 60, 61, 62 and 63 of EMCA and regulations 17, 18, 22, 24, 25 and 26 of the Environmental (Impact Assessment and audit) Regulations, 2003.

So was in the case of *Moffat Kamau & 9 Others v Aelous Kenya Limited & 9 Others*²³⁵ and the famous *Cortec* case where the court held that ‘Anyone who flouts the law for own advantage would not expect that the court will aid him to sustain the advantageous position that he acquired through the violation of the law. The acquisition by the Applicant of the mining license was not in compliance with the law and the license was void *ab initio* and liable to be revoked....’²³⁶

These are some among many cases which the courts have always ruled in favor of the petitioners in cases where proper EIAs and Audits have not been done and which would amount to the abuse of the rights to a clean and healthy environment.

²³³ UNEP, *Selection, Design and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya: The Case of Plastic Bags*, 2005.

²³⁴ *Benson Ambuti Atega & 2 others v Kibos Sugar and Allied Industries Limited & 4 others; Kenya Union of Sugar Plantation and Allied Workers(Interested Party)* [2019] eKLR.

²³⁵ [2016]eKLR.

²³⁶ *Cortec Mining Kenya Ltd v Cabinet Secretary Ministry of Mining & 9 Others* [2015] eKLR.

4.3.4 Reduced use of Single Use Plastics by Private Actors in Kenya

Despite the foreseen challenges in the ‘war against’ use of plastics in Kenya, there are some instances that are worth mentioning here where a total ban of single use plastics has been implemented and this is a success in Kenya. One of these instances is the ban on use of plastic water bottles, plastic cutlery and straws in some prestigious hotels at the coast region where it was recorded that “Seventeen beach hotels at the Coast were no longer using plastic bottles, plastic cutlery and straws in their establishments as the ‘war’ on pollution gains momentum. These hotels include the Sarova Whitesands Beach Resort and Spa, Tamarind Mombasa, Serena Beach Resort and Spa, Diani Reef Beach Resort and Spa, The Sands in Chale Island and Swahili Beach Resort”.²³⁷

According to a discussion report of 2018, by the Ministry of Environment and Forestry, the 2017 August national prohibition on the plastic carrier bags has been successfully implemented, significantly reducing plastic bag waste, roadside litter and volume of plastic transported to Kenya’s dumpsites.²³⁸ Though not to 100% but in the major cities this can be seen but the only key challenge remains is on the prohibition of the SUPs.

4.3.5 Ban of Plastics in Protected Areas

Following the ban of plastic carrier bags in Kenya August 2017, it has been proved beyond reasonable doubt that Kenya is still faced with the problem of littering on the environment

²³⁷Winnie Otieno, *Coast Hotels Ban use of Plastic Bottles, Straws*, January 31 2019, <<https://www.businessdailyafrica.com/news/counties/Coast-hotels-ban-use-of-plastic-bottles-straws/4003142-4960444-9puw9b/index.html>> Accessed on 9 July 2019.

²³⁸‘National Sustainable Waste Management Policy Ministry of Environment and Forestry’(Sessional Paper No. X of 2018.

especially in the protected areas.²³⁹ It is for this reason that Kenya has already issued a notice that single use plastics should be prohibited from use in protected areas.

4.3.6 Ban on Distribution of Plastic Bags Used in Supermarkets

In Kenya before the prohibition of SUPs in 2017, about 100 million plastic bags were distributed in the supermarkets alone. These bags had a serious harm to the environment, human health and wildlife especially in areas where the waste management systems were inadequate or rather not well managed.²⁴⁰ In a UNEP study, for instance, the veterinarians in Western Kenya claimed that in their lifetime cows ingest an average of 2.5 plastic bags in one week.²⁴¹ But after the 2017 plastic carrier bags prohibition, the situation has actually changed and no more distribution of plastic bags in our supermarkets hence the change to the effect on the animals and also cleaner environment.

Large supermarket chains are now selling reusable cloth bags, as the government encourages retailers to offer consumers alternatives to plastic bags. Kenyans are slowly adjusting to life without plastic bags but there is not yet a clear account of the impact of the ban. The government is now starting an analysis to measure the overall act of the ban.²⁴²

4.4. INNOVATIONS IN THE REGULATORY FRAMEWORK GOVERNING SINGLE USE PLASTICS IN KENYA

A number of initiatives have been put in place by various governmental and non-governmental entities to address the solid waste challenge in Kenya. The most recent one is the national ban on single use plastic carrier bags that has been successfully implemented,

²³⁹ Ibid

²⁴⁰ UNEP News Centre, 2017a

²⁴¹ UNEP Stories, 2017b.

²⁴² Katherine Martinko, 'Kenya Adjusts to Life Without Plastic Bags' (*The Star*, September 2017) [https://amp-theguardian-com.cdn.ampproject.org/c/s/amp.theguardian.com/world/2018/apr/25/nairobi-clean-up-highs-lows-kenyas-plastic-bag-ban](https://amp.theguardian-com.cdn.ampproject.org/c/s/amp.theguardian.com/world/2018/apr/25/nairobi-clean-up-highs-lows-kenyas-plastic-bag-ban)<accessed 12 July 2019.

significantly reducing plastic bag waste, roadside litter and volume of plastic transported to Kenya's dumpsites.

Waste has been known to be a problem and threat to the environment. But due to technological advances and innovative means, these same waste which is a menace be a source of income, employment if re-used, recycled, or even composted to make manure. The NSWM Policy states that:

“If properly managed as a resource, waste recovery and recycling can create new jobs and attract new investment in a diversified waste sector. It commits the government to establish legal frameworks and take actions that will enable Kenya to harness and incentivize large scale investment in the waste recovery and recycling industry in Kenya.”²⁴³

There are a number of innovations in the manufacturing, use, disposal and eventually the recycling of single use plastics which include:

4.4.1 Use of Glass Bottles

As mentioned under the point of success, there are some successes that have been achieved and one of them is the introduction of glass bottles which are refillable.²⁴⁴ ^^

This change in lifestyle is being seen as an opportune moment by many hotel owners along the Coast where the Indian Ocean waters have been known to be the most polluted from the SUPS due to the number of tourists visiting the Coast. Dawda B and Others in assessing the same situation in Malaysia have been said to for see a situation where the effects of single use plastics

²⁴³ The National Sustainable Solid Waste Management Policy, 2018, p.5.

²⁴³ The National Sustainable Solid Waste Management Policy, 2018, p.17.

²⁴⁴ Winnie Otieno, 'Coast hotels ban use of Plastic Bottles, Straws', (*Daily Nation* January 31 2019)

<<https://www.businessdailyafrica.com/news/counties/Coast-hotels-ban-use-of-plastic-bottles-straws/4003142-4960444-9puw9b/index.html>> accessed 9 July 2019

to the water, air, environment, animals and human healthy can be arrested if at all SUPs are prohibited.²⁴⁵

The non-use of SUPs is a private sector driven and the National government is expected to develop laws and policies that will govern this ban as soon as it can. According to a report by Robert McCune, Kenya has introduced initiatives which include the ban on the use and distribution of plastic bags, providing guests with reusable glass bottles, use of refillable porcelain dispensers for bathroom amenities, linen bags for guest laundry, and reusable canvas garbage bags.²⁴⁶ Robert McCune further says that ‘some hotels have replaced single-use plastic straws with eco-friendly, biodegradable paper straws. The Styrofoam containers with bamboo pulp containers, switched to refillable flip-top bottles instead of plastic water bottles and upgraded guestroom refrigerators to feature water dispensers.’²⁴⁷ Some resorts have also encouraged their clients to take refillable bottles which is also another avenue to curbing the plastic bottle menace and according Johnson Wamba, ‘what is important is not the plastic or glass bottle but the change in understanding the importance of changing ones attitudes and behaviour towards the use and management of plastics’.²⁴⁸

He further states “there is a need of laws and policies to regulate the glass bottles too in terms of how sustainable they are and the cost implications for the hotel owners in one hand and the consumer on the other hand.”²⁴⁹

²⁴⁵ Dawda, B and Others, *Assessment of Municipal Solid Waste Composition in Malaysia: Management, Practice, and Challenges*, 2012, Pol. J. Environ. Stud. Vol. 21, No. 3, 539-547.

²⁴⁶ Robert McCune, ‘Purging Plastics’ (Hotel News Now, 16 November 2018) <<http://www.hotelnewsnow.com/Articles/288882/How-hotel-companies-resorts-are-banning-plastic>> accessed 12 July 2019.

²⁴⁷ Ibid.

²⁴⁸ Johnson Wamba, ‘How to Develop a Waste Management and Disposal Strategy’(CIPS,2017 <<https://www.cips.org/Documents/About%20CIPS/Develop%20Waste%20v3%20-%2020.11.07.pdf>>accessed 24 August 2019

²⁴⁹ Ibid.

4.4.2 Waste segregation

The laws in Kenya like EMCA section 86 advocate for the collection, transportation and segregation of solid wastes. It seems that most there is lack of awareness and negative attitude towards waste segregation, lack of proper waste management systems to support segregation. There is a need to sensitize the people on the importance of segregating solid wastes both from the household to those who are supposed to transport and recycle the same. Most of the waste is generated at household, market places, cities, towns, institutions and industrial zones and very few households segregate waste at the household level. There is a minimal waste segregation at source within the Central Business District areas, industries, institutions in most towns.

Most of the ‘high class’ estates like Runda, Karen, Lavington, Kileleshwa among others have developed the culture of segregating solid wastes. There are some special plastics used to collect the solid waste in different categories ranging from kitchen waste to the plastics. Then these segregated wastes are in turn collected by county government and private sectors and recycled or decomposed. Though this has been witnessed in some of the urban areas and high class estates, there is still a need of creating awareness in the country so as to meet the constitutional mandate of a achieving a clean and healthy environment as well as the sustainable development goal 12.

There is need of the county and national government to come up with regulations that compel institutions, businesses, commercial traders, industrial and residential property developers to provide source segregation at their premises.²⁵⁰ The environment and housing ministries are supposed to design standard waste segregation receptacles to be mainstreamed in building designs. The government is also expected to come up with food waste regulation that compel

²⁵⁰ Winfred Gachohi, ‘Sustainable solid waste Management in Kenyan Urban areas, Nairobi, Kenya’ (Ashoka Change Makers,2017)10,<<https://www.changemakers.com/discussions/entries/sustainable-solid-waste-management-kenya>>accessed on 23 July 2019

waste collectors to separately collect, transport, and process such wastes into useful products thereby preventing dumping such wastes in dumpsites.²⁵¹

The government is also expected to carry out public awareness on waste segregation categories, colour codes, and national campaigns on importance of sorting wastes. The county government on the other hand is supposed to help in enforcing waste fractions segregation at source based on gazetted minimum waste fractions for all waste generators.²⁵² But despite the fact the segregation is being advocated for, the key challenge is the handling of the segregated wastes as most of the public and even private waste collectors will put all wastes together at the points of deposit hence mixing them up.

They are also supposed to ensure that service providers avail waste segregation containers. Finally, they should help with carrying out county public awareness on waste colour codes and importance of proper sorting.

4.4.3 Promoting Recycling

Recycling simply means re-using resources, instead of putting them to e.g. a landfill. As global concern over plastic pollution rises, corporate giants such as Coca-Cola and Unilever are pumping cash into a recycling initiative in Kenya they hope will provide a model for other developing countries.²⁵³ With the advancement in technology and globalization, it would be easy

²⁵¹ Winfred Gachohi, Sustainable solid waste Management in Kenyan Urban areas, p.11.

²⁵² Tilahun Nigatu Haregu, 'Solid Waste Management Policies in Kenya: Coherence, Gaps and Overlaps' (24 September 2016) 78, < <https://www.urbanafrika.net/resources/solid-waste-management-policies-in-kenya/> > accessed 23 September 2019

²⁵³ John Ndiso, 'Awash With Plastic Bottles And Lacking A Law, Kenya Struggles To Recycle, Sustainable' Business March 7, 2019, 17, < [Https://Www.Reuters.Com/Article/Us-Un-Environment-Plastic/Awash-With-Plastic-Bottles-And-Lacking-A-Law-Kenya-Struggles-To-Recycle-Iduskcn1qo1zf](https://www.Reuters.Com/Article/Us-Un-Environment-Plastic/Awash-With-Plastic-Bottles-And-Lacking-A-Law-Kenya-Struggles-To-Recycle-Iduskcn1qo1zf) > Accessed 9 October 2019.

to recycle solid wastes in Kenya today. The only way to get to the best systems is to learn from those who have succeeded in the recycling of the wastes copy from them. The society can promote recycling in many ways for example promoting technology development. Technology should be the starting point right from the collection and sorting out plastics more efficiently and economically. These plastics can be recycled to specific higher-value uses. Governments can support recycling and waste reduction information and education in schools, sponsor television, radio or newspaper advertisements promoting recycling and emphasize the important role of sorting trash from recyclables or buying products with recycled content. One of the well-known companies is the TakaTaka Solutions which is able to recycle on average 95% of the waste we collected. Recycling is also good as it saves energy and water because you don't have to produce something from raw material.

4.5 CONCLUSION

From the above discussion, it is clear that there are challenges faced in the implementation of the laws and policies on the management of plastics in Kenya. There are gaps and challenges that exist in the regulatory framework governing the manufacturing use and disposal of plastics. The key challenges include lack of awareness and the attitudes of all towards solid waste disposal which leads to uncontrolled dumping of waste. There is also a challenge of limited and lack of disposal sites and lack of policies for the CBOs and private Sector players in Solid Waste Management. There are also gaps in the regulatory and policy framework which include the gaps in the plastic waste categories that are to be prohibited, lack of awareness campaigns, penalties and corruption among others. There are also some successes that have been achieved like protection environmental rights impact of EIA and Audits as well as reduced use of plastics in protected areas among others. There are also some moments of innovations like the use of glass

bottles in leading restaurants and beach hotels, waste segregation which then leads to recycling of the solid waste as well promotion of recycling of the segregated wastes. Despite the gaps and challenges, all is aimed at achieving a clean and healthy but there is a room for innovation so that the goals of Zero plastics in this country can be achieved.

CHAPTER FIVE:

CONCLUSIONS, PROPOSALS AND RECOMMENDATIONS FOR A MOVE TOWARDS A CONSTITUTIONALLY COMPLIANT GOVERNANCE REGIME FOR SINGLE-USE PLASTICS

5.0 INTRODUCTION

This study was on the prohibition of plastics in Kenya a move towards a constitutionally compliant governance regime for single use Plastics. Due to urbanization and rise of population in the urban centers, use of plastics is equally rising hence a cause of alarm arising from how plastics are disposed of after use. The plastics wastes appear in a very high proportion in the municipal solid wastes and they are causing environmental problems such as choking of animals and soils; blockage of waterways; health problems, and resource depletion.

There are some successes achieved by the various laws, policies and institutions in the ‘war against’ use of plastics but still there are some gaps, challenges that are also attributed to the laws, policies and even the institutions that regulate the plastics. In order to attain the goals and demands of the Constitution to achieve a clean and healthy environment all aimed at sustainable development, then the gaps in law should be addressed as well as the innovations necessary to attain eco-friendly substitutes for the SUPs and other plastics as well.

5.1 CONCLUSIONS

This section will first of all list down the key findings of the research by trying to answer the research questions raised at the beginning.

5.1.1 How is the prevalence of single use Plastics in Kenya?

The research has established that plastic use in Kenya is prevalent. It further finds that the proliferation of plastic wastes in Kenya is due to many factors some of which include poor public awareness and perception on wastes, poor state of solid waste management, and actually poor

infrastructure which leads to blockages. The Waste management companies often lack the capacity to manage the wastes because of the ever increasing urban population.

There are various Authorities charged with managing plastic wastes including the county governments, the NEMA²⁵⁴, KRA²⁵⁵, KEBS²⁵⁶, and KIPPRA²⁵⁷ to mention but a few. There are also bodies that vehemently support the ban on plastic bags and also propose that plastics have to be used, then sustainable methods of plastic waste management should be proposed.

The situation in Kenya now on the pollution caused by plastics is alarming. Various stakeholders are raising concerns including government and environmental NGOs. Nobel Laureate Prof Wangari Maathai once said that to help save the environment, if you are sold food wrapped in a plastic bag, then the most honourable thing to do is to not take the food. President Kibaki reiterated that plastic situation is a big problem that required immediate attention. The Wildlife Club of Kenya organised a protest to force the government to prohibit the use of plastics. Though plastic carrier bags have reduced especially in the major cities, the SUPs like water and soft drink bottles remains a challenge. They are spread all over along the major highways in Kenya where people travelling by public or private means of transport just dispose them. This has been attributed to littering by plastic bags of less than 6 microns which are easily blown by wind.

²⁵⁴ NEMA-National Environmental Management Authority which is a creation of Section 7 of EMCA, 1999 (Revised 2018). This is the body as discussed under Chapter 3 as the main body that coordinates environmental management activities in the country.

²⁵⁵ KRA- Kenya Revenue Authority established by an Act of Parliament in July 1995 with the main purpose to provide an effective tax administration in revenue collection and enforce the mobilisation of government revenue. Unfortunately, the available legislation on the ban of plastics has not given clear mandate to KRA hence the possible inactive role in the 'war' against plastics.

²⁵⁶ KEBS- Kenya Bureau of Standards is the premier government agency for the provision of Standards, Metrology and Conformity Assessment (SMCA) services since its inception in 1974. In the 'war' against plastics, KEBS is key in ensuring of high quality products as substitutes of the existing low quality plastics for durability purposes.

²⁵⁷ KIPPRA-Kenya Institute for Public Policy Research and Analysis is an independent public institute that was established through a Legal Notice and operationalized in June 1999. It has an overall mandate of improving public policy making for realization of national development goals by way of conducting economic forecasting, policy analysis research, and formation of medium and long-term strategic perspectives for economic and social development.

Some households use these plastics as flying latrines. The net effect has been death of aquatic life and livestock. Plastics also block gutters and drains.

5.1.2 What are the regulatory frameworks governing single use plastics in Kenya?

There are a number of regulatory frameworks that help in managing plastic wastes in Kenya. One such regulation is the Environmental Management and Co-ordination Act (EMCA) of 1999 which came into effect in 1999. Section 7 of the Act helped in establishing NEMA whose general mandate is to help in the supervision and co-ordination of all matters relating to the environment. The authority is supposed to help the government to implement all the policies that pertain to the environment. It advises the government on legislative issues pertaining to the management of environment. It also enhances co-operation with various agencies in environmental education and public awareness campaigns. The Act is very integral in environmental management in the sense that it gives citizens powers to prosecute entities that engage in environmental pollution.

Section 3 and 147 of the EMCA gives the cabinet secretary of Environment and Forestry the power to come up with regulations hence the Environmental Management Co-ordination Regulations of 2018 which help in managing plastic wastes in Kenya.

The Kenya Association of Manufacturers (KAM) an umbrella body that also include companies that manufacturer plastic bags also engage in research innovation towards coming with technologies and best practices that can help in managing plastic waste menace. The association believes that development of economy is intertwined with waste management hence

the institutionalization of best practices. Towards that, it has ratified the Kenya Plastics Action Plan²⁵⁸ geared towards re-use and recycling of plastic wastes.

5.1.3 What are The Challenges, Gaps, Successes, and Innovations in The Regulatory Frameworks towards Sustainable Plastic Waste Management?

Many challenges exist in policies and regulatory frameworks towards sustainable plastic waste management. These include inability of EMCA to fully operationalize economic tools that encourage recycling, 6, and recovery of plastics, lack of policies addressing the roles played by community based organizations and the private sector players in the management of wastes, and lack of vetting of private companies intending to engage in the management of solid waste. Other challenges include poor education on the part of policy makers, clash between local authorities by-laws and central government, inadequate implementation of local authorities' by-laws which has led to decline in efficiency in local authorities operations and indiscriminate dumping, and failure by both Local Government and Public Health Act to neither classify wastes into categories and to set standards service nor require waste reduction or recycling. Gaps still exist in policy and regulatory frameworks in waste management that need addressing. According to Lee Chin there are many gaps and he states that;

“Such gaps include lack of economic model for recycling that is not centred on the dumpsite, lack of appreciation of the role informal community play in solid waste management, lack of market for recycled products, lack of education campaigns on need for recycling wastes, and lack of enough funds with which lead agencies in solid waste management can discharge their mandate. The agencies also lack funds for maintenance of waste infrastructure.”²⁵⁹

²⁵⁸ Kenya Plastics Action Plan is an establishment of the manufacturers under Kenya Association of Manufacturers embarking on collaborative strategies towards the reuse and recycling of plastic waste. The Action Plan resonates with the Ocean Plastics Charter, which is a long term private sector initiative on the sustainable manufacture, use and recycling of plastics. See KAM, 2018<<http://kam.co.ke/manufacturers-endorse-global-charter-on-plastics/>>Accessed 22 November 2019.

²⁵⁹ Lee, Chin-Yu Daphne, ‘Extended Producer Responsibility and the Market Development for Recycled Plastics. The Two Norwegian Cases of Using Recycled Polypropylene in Chairs’ (IIIEE Reports, Lund University) 2002.

Nevertheless, there are innovations that can help in sustainable plastic waste management. Such innovations include coming up with policies that ensure that dumpsites are only filled with material that cannot be recycled only. Waste separation policy can also be put in places and compel institutions and entities to provide source segregation receptacles at their premises so as to prevent dumping of recyclable wastes in dumpsites. Waste collection policy where recyclable material are transported from point of segregation can also be put in place. Such policy will help in establishing deposit returns system and standards for refund marking of products and containers under deposit return system.

With regards to successes of the regulatory framework, EMCA is one such positive step towards plastic waste management since it has given the people the express authority to prosecute individuals and companies that have polluted the environment. The introduction of glass bottles as well as use of cutlery not made of plastics is a key step towards the attainment of a clean environment.

5.1.4 What Can Be Done to Enhance Management of Plastics In Kenya?

Management of plastics in Kenya can effectively be achieved by coming up with solutions that will serve as corrective measures to the key root causes. Having enumerated the gaps, challenges, and innovations in the policy and regulatory framework, it will be impractical to single out a single instrument that can help in plastic management. Plastic management calls for more than one approach.

We have earlier pointed out that economic tools that were envisaged in EMCA towards solid waste management have not robustly been made use of by the lead agencies. The Kenya Revenue Authority should consider putting in place plastic levy which will see the establishment

of deposit returns systems and standards for refund. Products and containers including plastic bags will be marked under the deposit refund system.

Institutional failures should also be fixed. There should be formulation and enforcement of workable by-laws on littering and dumping by competent persons. The re-use culture can also be promoted. The re-use culture will help in reduction of plastics that are released into the environment. This will compel the plastic bag manufacturers to come up with bags with specific film thickness and dimensions. This can only be implemented if the by-laws and standards bodies come up with a regulatory instrument for effective realization of the corrective measures.

5.2 PROPOSALS

5.2.1 Creation of Awareness on the Environmental Impacts of Plastic Wastes

It is obvious that there is an element of lack of awareness of the environmental impacts of plastic wastes. This arises from the fact that even after witnessing how our water zones like lakes, ocean and rivers have been blocked people still manufacture plastics, sell them to people, who after using the content discard them anywhere. There are so many pieces of plastics especially the SUPs lying all over. Many people just discard litter through the windows of motor vehicles without thinking on where they will be deposited at by the rain waters and wind. There is a need of creating awareness on the reduction, re-use and recycling of plastics. This has to be in a well formulated informative instruments like awareness campaigns and education for all actors involved with production, use, and disposal of plastic wastes. According to Jamberk J and Hardesty B,

“Research has shown that education and awareness raising programs are correlated with reduced coastal debris, hence, Fast-tracking education and understanding to promote behavioral changes while creating a platform for sharing educational resources and best practices could prove beneficial towards reducing waste inputs to the environment. Education on-line and in schools, adapting programs from other continents to African cultures and conditions where

appropriate, and adapting existing resources can help reduce litter inputs to the environment. Working with all stakeholders including manufacturers, distributors and retailers to increase understanding of the impacts of plastic to the environment and could also help to identify and manage the use of plastics’²⁶⁰.

One of the best option is to build up public awareness and motivation to the 3 R’s (reduce, re-use and recycle)²⁶¹ these-bags which will undeniably help to resolve the environmental problems to a greater-magnitude. This study may also be valuable for Government authorities, NGO’s, private bodies or individuals, in order to develop adequate strategies and take actions according to the actual-consumer attitudes and opinions.²⁶²

5.2.2 Economic Instruments on Tax, Duty Waivers and Preferential Electric Tariffs

Both the national and county governments can work on economic instruments like tax, duty waivers and preferential electric tariffs should be encouraged to promote recycling. Minimum requirements on recycled post-consumer plastic can also promote this activity. There should be duty wavers so as to encourage investors in this field especially the private sector. There is also of very low calorific value of municipal solid waste, high investment cost and lack of expertise, incineration cannot be a single solution to MSW. To that effect, waste has to be segregated at the source to prevent dumping of recyclable wastes at the sanitary dumpsites. Dumpsites should primarily be for wastes that cannot be recycled. This will discourage indiscriminate unwanted dumping and the open air burning of mixed wastes. This does not seem as a way of managing plastic wastes but remember segregation of waste is a step towards recycling of wastes.

²⁶⁰ Jamberk J, and Hardesty B, ‘Challenges and Emerging Solutions to The Land-Based Plastic Waste Issue in Africa’, (Marine Policy, 2018, Elsevier)23.

²⁶¹ George Donald, Lin Brain, and Chen Yunmin, ‘A Circular Economy Model of Economic Growth’p.54.

²⁶² Diana Starovoytova, ‘Consumer-Perception on Polyethylene-Shopping-Bags’ (Journal of Environment and Earth Science, Vol.6, No.11 2016) IISTE 16.

Waste collection policies where recyclable materials are transported from point of segregation also help in managing plastic. During segregation, recycled wastes will be separated from non-recyclable wastes. Non-biodegradables will be taken to the dumpsites while some like plastic bags and bottles that can be recycled will be taken for recycling. Such policies allow for establishment of deposit returns system and standards for refund where products and their containers are marked under deposit return system. This helps in reduction of plastic waste that are generated, used and that can be recycled.

5.3 RECOMMENDATIONS

An attempt has been made at the beginning of this chapter to answer the research questions that were asked at the beginning of this thesis and aiming at fulfilling the objectives of this research. The author of this paper recognises that that should remain the main task. However, it is good to decide on issues that are of special significance to the case under investigation. The recommendations include:

5.3.1 Review of the Existing Laws and policies

Moving towards a constitutionally compliant governance for SUPs, it is time stakeholders review the existing laws in relation to the gaps that have been established. This should include eliminating any exemptions by the law. Solutions to the proposed by laws and policies should also ensure that the socio-economic, political and environmental interests are balanced so as to promote sustainable development.

5.3.2 Involvement of retailers in The Campaigns of ban of Plastics

Retailers play a big role towards proliferation of plastic bags as they are the key traders on plastics. There should be campaigns towards minimizing the use and also the effects of plastics to the environment and they should be brought on board. The retailers and all other stakeholders

should be encouraged to take part in voluntary schemes like national code of practices for retailers. Such schemes can significantly help reduce littering by plastic bags.

5.3.3. Imposition of Levies on Plastics

Economic instruments like plastic bag levy should be imposed on suppliers of plastics to help raise funds that can be used to support the development of environmentally friendly alternative bags. The funds collected from the levies on plastics can also be used to put up incinerators and buy the recycling machines that can be used for the benefit of all.

5.3.4 Improvement of Recycling Systems

From the study above, it has been established that there are some recycling companies in Kenya. They recycle various materials like glass, plastics but they are not sufficient. There is need to establish systems that can recycle plastics in of all sorts if at all the plastics have to be produced. A change of mentality is also called for especially in cases where plastics have to be used hence he re-use or recycling of the plastic wastes.

5.3.5 Solid Waste Segregation

Segregation of wastes is very paramount to solving the problem of SWM. Wastes should be segregated at sources so that hazardous waste are not dumped together with other wastes. There should be proper collection of wastes and sorting at material recovery facilities, recycling, and composting. Hazardous wastes should be treated before they are disposed to avoid environmental contamination. Besides, timely inventories on quantities and types of waste generated should be inculcated.

5.3.6 Creation of Awareness on Plastics

Plastic wastes encroach our space because of lack of proper information on how they can be managed. Their effect on the environment can be checked when information is disseminated to

the general public on how they can be managed. This should run concurrently with documentation and knowledge management on waste matters.

5.3.7 Monitoring and Evaluations Institutions Dealing with Wastes

The ‘war’ on plastic management in Kenya can also be won by monitoring institutions dealing with wastes and enforcing legal framework relating to waste management. Kenya having domesticated Stockholm Convention on Persistent Organic Pollutants is under obligation to minimise toxic emissions.²⁶³ Kenya acceded to this Convention on the 1st of June 2000. The provisions of the Convention have been domesticated in EMCA section 141, which makes it an offence to import, dispose or otherwise manage hazardous wastes contrary to the provisions of the Act. Through EMCA and regulations promulgated thereof will facilitate the implementation of the Convention.²⁶⁴

²⁶³ Stockholm Convention on Persistent Organic Pollutants < <http://kenyalaw.org/treaties/treaties/111/Stockholm-Convention-on-Persistent-Organic-Pollutants> > accessed 5 September 2019.

²⁶⁴ Final Draft Report, Republic Of Kenya Ministry Of Environment, Water and Natural Resources The Updating of The Kenya National Implementation Plan Under The Stockholm Convention on Persistent Organic Pollutants Consultancy: Legal Policy And Institutions, (26 February 2014) p.40.

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