An Examination of Legal Framework for Solid Waste Disposal and Management in the United Kingdom and South Africa: Lesson for Nigeria

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Abstract

One of the most pervasive environmental threats in the world is solid waste, which includes trash, refuse, garbage, and rubbish from residential and business operations. The threat is present in many nations, including Nigeria. Despite the existence of the necessary legal frameworks (rules and institutions), the inefficiency for the control and management of solid waste in Nigeria is very frightening. This article looks at the legislative frameworks for solid waste in South Africa, the United Kingdom, and Nigeria in an effort to learn from them for Nigeria. To obtain data for a comparative comparison, the doctrinal approach of legal research was used. The analysis found that in order to manage and control the threat in accordance with the standard for best practices around the world, the existing legislative frameworks is insufficient. However, this paper came to the conclusion that the problem is not solely due to the inadequate legal framework; it is also due to the general lack of concern individuals have for solid waste management and control, which makes it impossible to achieve success despite significant effort. Lessons were drawn for a better control and management of solid waste in Nigeria as a way ahead.

Keywords: Environment, Solid Waste, Solid Waste Management, Legal Framework, Nigeria

I. Introduction

The problem of solid waste is a long-standing one since human activity is inextricably linked to the production of solid waste, which makes its production

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unavoidable³. Solid waste is currently one of the most serious environmental threats facing Nigeria, as well as the rest of the world. This is likely because many Nigerians have fallen behind in the pace of urbanization and the waste generation that comes along with it as a result of people's shifting lifestyles and consumption habits.⁴

There seem to be ignorance and negligence of the danger associated with indiscriminate waste disposal among some residents in Nigeria despite the legal frameworks (laws and institutions) in place to curb criminality in that regard. Yet, these set of residents continue to litter the environment.⁵

However, some jurisdictions⁶ today are keeping pace with the solid waste generation in proportion to its growth and management in line with other socioeconomic parameters⁷ which guaranty a sustainable healthy environment. ⁸ Therefore, it is so pertinent to examine the spirit of commitment in those jurisdictions so that Nigerian can learn from them. These jurisdictions are not absolutely solid waste free though. But, the level of efficacy is at high side. It is against the backdrop that this paper set out to examine legal framework (law, policy and practice) in Nigeria, South Africa (SA) and United Kingdom (UK) in a bid to pinpointing and drawing out lessons for Nigeria to emulate.

II. Research Methodology

The paper makes use of the doctrinal research approach. It is library research that uses both primary and secondary sources. Statutes, the Constitution, Acts, and Laws are the primary sources, whereas books, articles, and other materials are

³ Napoleon S. Momodu, Kingsley O. Dimuna and Joan E. Dimuna, 'Mitigating the Impact of Solid Wastes in Urban Centres in Nigeria' [2011] 34(2) *J Hum Ecol* 126.

⁴ Ibid.

⁵ Afangideh A. I, Joseph K. U and Atu J. E, 'Attitude of Urban Dwellers To Waste Disposal And Management in Calabar, Nigeria' [2012] 1 (1) *Europian Journal of Sustainable Development* 23.

⁶ Developed and developing countries like UK and South Africa respectively.

⁷ Sakurai K, 'Improvement of solid waste management in developing countries' [1990] I *Institute for International Cooperation Japan, JICA Technical Handbook Series* 7; Achankeng E, 'Globalization, urbanization and municipal solid waste management in Africa' In African Studies Association of Australasia and the Pacific, 26th Annual Conference Proceedings: Africa on a global stage (University of Adelaide, Australia 2003).

⁸ Such as population, personal income and consumption patterns.

secondary sources. The 1999 Constitution of the Federal Republic of Nigeria (as amended), the Environmental Impact Assessment Act (EIA Act), and others are some of the key sources examined in this article. Books, articles, and journals that are pertinent to the topic of this research are among the secondary sources. The world has become a worldwide room as well as a global village thanks to the internet. It is quite beneficial for several studies of various kinds; nothing that is required for knowledge cannot be found online. So, while getting this piece together, the internet has been a huge assistance.

III. Conceptual Framework

A. Solid Waste

Solid waste is of the common environmental pollution⁹ around human inhabitant which includes; air pollution, water pollution and land or surface pollution. It is pertinent to note that, solid waste is a common form of land or surface area pollution. Thus, Solid waste is any discarded material which is abandoned, unwanted and considered inherently waste-like.¹⁰ Solid waste such as garbage, trash, refuse, slug or rubbish is disposed of or expected to be disposed of in line with national law.¹¹ Solid waste consists primarily of materials that have been abandoned or are no longer needed as a result of human activity on different types of property, including residential, commercial, and industrial uses¹²

Therefore, solid waste may not generally be regarded as useless and unwanted unless it is not adequately disposed of and managed in accordance with the current legislative rules. ¹³

B. Solid Waste Management

Solid waste management is a professional and technical one which goes beyond the physical aspects of handling waste as it involves; preparing policies,

⁹ NESREA Act S 37, where pollution is defined as man-made or man-aided alteration of chemical, physical or biological quality of the environment to the extent that it is detrimental to that environment or beyond acceptable limits.

¹⁰ The U.S RCRA, 1986, s 261.

¹¹ Hakeem Ijaiya, 'The Legal Framework for Solid Waste Disposal and Management in Kwara State, Nigeria' [2013] 4 *Journal of Environmental Protection*, 1240-1244 < http://www.scirp.org/journal/jep> accessed 24 April, 2022.

Yahaya Ganiyu and Kehinde Adeola Olufunke, 'An Appraisal of the Legal Framework of Solid Waste Control in Nigeria' [2020] 2 FUOYELJ, 34.
 Ibid.

determining the environmental standards, involvement of experts, enforcing regulatory mechanisms and etcetera¹⁴. Waste management entails a wide range performance of various functions. Ikoni¹⁵ asserts that solid waste management is the collection and careful processing of solid wastes from the point of generation to the point of disposal in order to attain the highest level of environmental safety.

From Ikoni's assertion, Therefore, managing solid waste involves a variety of functions, including gathering, storing, transferring, handling, transporting, processing, and final disposal in accordance with global best practices, public health standards, and current legal and regulatory frameworks. So, managing solid waste is both a procedural and administrative duty. In order to ensure that sustainable development is achieved, there is a need to ensure that solid wastes are properly managed. ¹⁶

C. Solid Waste Management Approach

In all jurisdictions, currently no single waste management strategy is suitable for solid waste. For instance, The United States (U.S) Environmental Protection Agency (EPA) developed a strategy for managing and controlling municipal solid waste which is ranked as the most environmentally sound method. The strategy emphasizes waste reduction, reuse, and recycling and highlights the essential elements of the EPA's Sustainable Materials Management (SMM) Program. In the same line, the United Kingdom's (U.K.) strategy is comparable to that of the U.S., with the exception that Recovery and Treatment prior to final disposal are the responsibility of local governments rather than people for the 3Rs (also known as the 3Rs). It is important to emphasize at this point that the majority of ecologically friendly methods for managing solid waste revolve around Source Reduction and Reuse, Recycling/Composting, Energy Recovery/Treatment, and Final Disposal.

 $^{^{14}}Ibid.$

¹⁵ U.D. Ikoni, *An Introduction to Nigerian Environmental Law* (Malthouse Press Limited, Lagos 2010) 87.

¹⁶ Kehinde A.O, "Legal Control of impro per and effect of improper solid waste management in Nigeria" Novena Law Journal Vol.6, 2.

United State Environmental Protection Agency 'Municipal Solid Waste - Basic Facts'
 [2007] 1 accessed 05 June 2022.,
 https://www.nrc.gov/docs/ML0720/ML072040338.pdf > .

IV. Nigeria's Legal Framework (Laws and Institutions) A. The 1999 Constitution of Nigeria¹⁸

By virtue of Chapter II, the Constitution of the Federal Republic of Nigeria (CFRN), 1999 (as amended), acknowledges the necessity of enhancing and safeguarding the environment. The Constitution's Chapter II focused primarily on the Fundamental Goals and Direct Principles of State Policy. According to Section 20 of that document, the State is required to safeguard Nigeria's water, air, land, forest, and wildlife as well as to maintain and improve the environment. Therefore, section 20 deals with improving and safeguarding the air and atmosphere, land and surface area, water and aquatic environments, and animals from all kinds of pollution and deterioration. The Declaration on Environment and Development states that "Human beings are at the centre of concerns for sustainable development," which is consistent with this. They have the right to live a healthy, fulfilling existence in balance with the natural world. 19 But, the ability to challenge the States' failure to improve and protect the environment cannot be judicially enforceable due to the provision of section 6(6)(c) of the same constitution. Thus, the Constitution contains a vast collection of rights²⁰ which are sacrosanct among which a right to healthful environment can be derived.²¹

Today, the citizens can seek environmental justice and protection of their rights to healthful environment through the three key alternatives available notwithstanding the non-justifiability of the provision of section 20 of the constitution. These alternatives are: the African Charter on Human and Peoples' Rights (also known as Banjul charter)²², the provisions of chapter IV of the

¹⁸ Cap C23, LFN 2004.

¹⁹ Principle 1 of the 1992 Rio Declaration; CFRN, 1999 (as amended) s12, which impliedly establishes that international treaties (including environmental treaties) ratified by the National Assembly should be implemented as law in Nigeria.

²⁰ The rights including; the right to life, the right to fair trial, the right to protection from discrimination, the right to equality to mention a few.

²¹ B. A. Abdulkadir, 'The Right to a Healthful Environment in Nigeria: A Review of Alternative Pathways To Environmental Justice in Nigeria' [2014] 3(1) *Afe Babalola University: Journal of Sustainable Development Law and Policy* 118-131.

²² See Article 24 of The African Charter on Human and Peoples' Rights (adopted 27 June, 1981 and entered into force 21 October,1986) which recognizes the right of all people to a generally satisfactory environment favourable to their development. See also,

Nigerian Constitution and the Common law principles in *Ryland v. Fletcher*²³ (although remedies awarded either in the form of damages, redress and compensation under the principles are majorly to benefit claimants rather than focusing on restoring the environment).

Through the Gbemre v. Shell Petroleum Development Company of Nigeria Limited²⁴ case, a new era of access to environmental justice and protection of the right to a healthy environment in Nigeria officially began in 2005. For the first time, the court was able to incorporate the right to be free from pollution or actions that harm life into the right to life. In that case, the court made a ground-breaking and bold ruling that demonstrates the willingness of the Nigerian judiciary to interpret the right to life broadly to encompass the right to a healthy environment. As the first court body to declare gas flaring illegal, unconstitutional, and a violation of the basic human right to life, this case set a precedent in Nigeria.

In this article it is observed that the Nigerian Constitution has not adequately captured all area of environmental justice and protection of rights to healthy/clean environment. Thus, right to healthy/clean environment can be best sought by anchoring it on Fundamental Human Right²⁵ and the African Charter on Human and Peoples' Rights²⁶.

B. The National Environmental Standards and Regulation Enforcement Agency (NESREA) Act

The NESREA Act²⁷ replaced the defunct Federal Environmental Protection Agency (FEPA) Act²⁸ own to poor environmental compliance and enforcement

Fawehinmi v Abacha [2001] 51 WRN 2where Ejiwumi JSC asserted that 'the Africa Charter on Human and Peoples' Rights, having been passed into our municipal law, our domestic courts have certainly has the jurisdiction to construe or apply the treaty. It follows then that anyone who felt that his rights as guaranteed or protected by the Charter, have been violated could well resort to its provisions to obtain redress in our domestic courts.'

²³ (1865) 3 H. & C. 774.

²⁴ Suit No: FHC/B/CS53/05.

²⁵ Chapter IV CFRN, 1999 (as amended).

²⁶ Articles 2 (non-discriminatory enjoyment of rights), 4 (right to life), 14 (right to property), 16 (right to health), 18 (family rights), 21 (right of peoples to freely dispose of their wealth and natural resources) and 24 (right of peoples to a satisfactory environment). ²⁷ Cap E146 LFN 2007.

²⁸ Cap F 10 LFN 2004.

regimes due to subsequent adverse impacts on the environment and human health in Nigeria.²⁹ The NESREA is now the main agency mandated to; enforce compliance with both local and international environmental laws on environmental sanitation, pollution prevention and control via monitoring and regulatory measures; and to make regulations on air and water quality, effluent limitations, control of harmful substances and other forms of environmental pollution and sanitation as contained in sections 7 and 8 of the Act. Thus, the NESREA Act enjoys the unsurpassed role of the flagship legislation on environmental law in Nigeria.

The chief enforcer, as enshrined in the Act, is an "officer" of the Agency.³⁰ In addition to the Agency official, any Police officer not below the rank of Inspector of Police or any Custom officer can enforce the Act.³¹ Not often than not, obstruction of an officer under the provision of the Act carries a stiff penalty.³² If the obstruction is caused by an individual, upon conviction, such individual shall be sentenced to a minimum fine of №200,000 or a maximum imprisonment of one year or to both fine and imprisonment, and an additional fine of №20,000 for each day the offence continues³³. If the obstructer is a corporate body, it shall, upon conviction, be liable for a fine of №2,000,000 with an additional fine of №200,000 for each day the offence continues.³⁴

Nevertheless, it is consequential to note that the powers of the Agency do not extend to environmental issues arising from the oil and gas sector.³⁵ In other words, the Agency lacks jurisdiction over environmental matters emanating from the oil and gas sector.³⁶

In the opinion of this paper, the NESREA Act is yet to part away with those shortcomings ascribed to the defunct FEPA as the defunct FEPA Act had

²⁹ M. Ayo Ajomo and Omobolji Adewale, *Environmental Law and Sustainable development in Nigeria* (Institute of Advanced Legal Studies Lagos, Nigerian 1994) 67-80.

³⁰ NESREA Act, Cap E146 LFN 2007, s 30 (1).

³¹ *Ibid*, s. 37.

³² *Ibid*, s .31.

 $^{^{33}}$ Ibid.

³⁴ *Ibid*.

³⁵ *Ibid*, s. 8 (g) (k), (n), (s).

³⁶ The Petroleum Industry Bill (PIB) that will regulate the oil and gas sector is before the National Assembly.

impliedly accommodated the "polluter pays principle" (by dealing with environmental issues arising from the oil and gas sector) as enshrined in the FEPA Act³⁷. Similarly, a lot of the Agency's mandates are targeted towards compliance with provisions of various environmental laws/regulations and prevention of environmental devastation without proactive measures on restoration of environmental devastation.

C. The Harmful Waste (Special Criminal Provisions) Act

The Harmful Waste (Special Criminal Provisions) Act³⁸ was the first legislative intervention in Nigeria following the Koko dumping incident³⁹. The Act was originally promulgated as a decree and later metamorphosis into an Act. It is important to note that the Koko incident is not a coincidence, but a reason or reasons for emergence of environmental law for healthy environment in Nigeria. The Act prohibits illegal carrying, dumping, importing, or causing to import or negotiation for the purpose of importing or depositing of harmful waste on any land or territorial water of Nigeria.⁴⁰

Moreover, the Act contains offence and penalty provisions which include life imprisonment on conviction. On this note, carrier or aircraft used or any land on which the harmful waste was deposited shall be forfeited to the Government of the Federal Republic of Nigeria. The Act, also, provides for a categories of the offenders (such as; one who aids, one who counsels or procures, as well as offenders with a common intention) in connection with the violation of the Act, who are to be all liable to the same extent on conviction as the major offender. Also, where the offender is a corporate body, and it can be proved that an officer

³⁷ FEPA Act, Cap F 10 LFN 2004, s. 21 & 22.

³⁸ Harmful Waste (Special Criminal Provisions) Act, CapH1 LFN 2004.

³⁹ Koko incident of 1988 came to live when toxic waste dumped by Italian company in Koko, a remote part of the then Bendel State (now Edo State), Nigeria was discovered.

⁴⁰ Harmful Waste (Special Criminal Provisions) Act, Cap H1 LFN 2004, s.1.

⁴¹ *Ibid* id, s. 6

⁴² *Ibid*, s 2 and 3. Although, these provisions of section 2 and 3 are seemed to be uncalled for, because Nigerian criminal laws are quite explicit on the point of accomplish, abetment and the likes in their various provisions. Therefore, both sections are saying nothing new.

or director therein had contributed act or omission to the crime, such officer or director is liable, on conviction, to life imprisonment under the Act. 43

The Act also accommodate civil liability as the Act makes an offender liable to compensate anyone who claims to suffer damages (in form of death, physical or mental injury) subsequent to the dumping.⁴⁴ It is consequential to note that there is no liability where damage is suffered by any person who has voluntarily assumed the risk of dumping or has fault for the dumping which caused the damage suffered.⁴⁵

This paper opines that the Act depicts that Nigerian government is prima facie committed to a zero tolerance to offences under the act as the act has neither, in any way, made provision(s) for precautionary measures or surveillance nor does it prescribe penalty for failure to abide by those measures, which would have stood against perpetration of the environmental offences.

D. The Criminal Code Act

The Criminal Code Act⁴⁶ contains provisions centred on prevention of public health hazards which has direct link with environmental protection in Nigeria.

The relevant provisions are Sections 245 and 247 of the Act. Section 245 provides that, 'Any person who corrupt or fouls the spring, stream, well tank, reservoir, or place so as to render it less fit for the purpose for which it is ordinarily used, is guilty of a misdemeanour, and is liable to imprisonment for six months'.

Section 247 provides that:

Any person who;

- (a) vitiates the atmosphere in any place so as to make it noxious to the health of persons in general dwelling or carrying on business in the neighborhood, or passing along a public way is guilty of misdemeanour; or
- (b) does any act which is, and which he knows or has reason to believe to be, likely to spread the infection of any disease dangerous to life,

⁴⁴ *Ibid* s. 12.

⁴³ *Ibid* s. 7.

⁴⁵ *Ibid*, s. 12 (1) (a) & (b).

⁴⁶ Cap C39, Laws of the Federal Republic of Nigeria, 2004.

whether human or animal; is guilty of a misdemeanor, and is liable to imprisonment for six months

By implication, dumping of solid waste at local sources of water (spring, stream, well, tank, reservoir) so as to render it less fit for ordinary use is a punishable offence.

E. Environmental Impact Assessment (EIA) Act

Environmental Impact Assessment is a process tailoring towards predicting, evaluating, identifying, and mitigating the negative effects of developmental project prior to the commencement of the project.⁴⁷ This mandate is in alliance with the principle 17 of the Rio Declaration provides to the effect that Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

Consequently, EIA Act⁴⁸ makes it so mandatory for any developmental project to undergo an environmental impact assessment before commencement. It further prohibits the commencement of any project which may significantly have negative effects on the environment. Nevertheless, where a project may likely result in significant adverse effects on the environment, the project shall not be permitted to fly.⁴⁹ The Act specifically states the assessment minimum content of EIA and stipulates that assessment should be as detail as the severity of the impact requires. The act vests on the NESREA, the duty to consider Environmental Impact Assessment. Section 4 of the Act required that mandatory Evaluation Assessment Report be made whenever the extent, nature or location of a proposed project or activity is such that it is likely to have adverse effect.⁵⁰

This paper opines that the EIA Act has implied relevance to the control and management of solid waste, because the core mandate of the Act strictly focuses

⁴⁷ International Association for Impact Assessment, '*Principle of Environmental Impact Assessment Best Practice*' (1999) 2.

http://www.jsia.net/6_assessment/fastips/Principles%20of%20IA.pdf accessed June 2022.

⁴⁸ EIA Act, CAP E12, LFN 2004.

⁴⁹ *Ibid*, s. 30.

⁵⁰ *bid*, s. 14.

on general principle of the procedures, reports and penalties⁵¹ for non compliance, notwithstanding that the effect of any project may cause solid waste generation that required to be carefully disposed of. Be that as it may, there are little or hidden provisions for solid waste treatment and disposal under the Act as solid waste is categorized under the mandatory study activities. Therefore, the concept of solid waste treatment and disposal deserved a "Section" in the Act because "Solid Waste" is the reason for the first statute in Nigeria on environmental protection; hence justice is not done to solid waste under the Act.

V. Solid Waste Management Approach in Nigeria

The focus of Nigeria's solid waste management strategy is on the storage, collection, and transportation of solid waste as well as on resource recovery, recycling, waste treatment, and disposal.

Any solid garbage that is produced is either stored in a bag, a container, or a plastic waste bin. As an illustration, the Lagos State Waste Management Authority (LAWMA) in 2009 gave homeowners 240-liter containers in exchange for an annual Land Use fee paid to the Land Records Company.⁵²

According to reports, the cost of solid waste management in Nigeria is largely accounted for by the operations of garbage collection and transportation, which account for around 80% of the overall cost.⁵³ This enormous expense of transportation and collecting alone prevents adequate waste control and management because other phases will undoubtedly have financial consequences. It is important to note that although informal collectors attend the event, they are formally prohibited from doing so in some areas of Nigeria, and violations are subject to punishment.⁵⁴

Recovery and recycling are often carried out by separation from mixed garbage in Nigeria. The informal waste collectors also handle the majority of these sorting responsibilities. A low of 24,000 tonnes and a high of 42,000 tonnes of compost were produced in Lagos State's Ikorodu informal composting facility for the treatment of market garbage in the second half of 2011. Comparably, the waste-

⁵¹ *Ibid*, s. 60.

⁵² *Ibid*.

⁵³ *Ibid*.

⁵⁴ *Ibid*.

to-energy facility at Ikosi Market produced biogas from market garbage that was utilized to power a 2KVA generator there.⁵⁵

Solid waste treatment and disposal in Nigeria, not often than not, carried out through disposal in illegal dumpsites and finally treated by burning. ⁵⁶So, landfill option is not common in Nigeria. in the meantime, Nigeria has landfills in most of the states, managed by the local council subject to various rules as provided by NESREA⁵⁷, but not adequately utilised.

Since the Koko tragedy, Nigeria's solid waste management has undoubtedly improved under the guidance of the aforementioned regulatory frameworks. This emphasized the undeniable reality that the 1980 Koko Incident did not occur by chance, but rather as a result of Nigeria's need to dramatically flourish for a healthy environment. The fight for a healthy environment does, however, face several obstacles, such as insufficient funding, inadequate laws, the carelessness with which Nigerians dispose of their solid waste, the belief that the government should handle everything, inadequate modern technology, and others.⁵⁸

VI. South African Legal Framework

A. The Constitution

Just like Nigeria and so many other jurisdictions, the grundnorm statute of South Africa is the Constitution⁵⁹. According to Section 24 of the Constitution, everyone has the right to an environment that guarantees a certain level of unharmed health and well-being. In a same spirit, the constitution requires the government to take legislative and other steps to avoid all types of pollution, ecological degradation, encourage protection of environment, guarantee sustainable development, etc.

B. The National Environmental Management Act (NEMA)

The South African laws that are in place to control pollution and other environmental waste heavily rely on NEMA⁶⁰. In South Africa, the provinces' cooperative environmental governance is greatly aided by NEMA. The crucial

⁵⁵ *Ibid*, 53.

⁵⁶ *Ibid.* Note that largest dumpsite available in Nigeria is the Olusohun dumpsite in Lagos.

⁵⁷ National Environmental (Sanitation and Wastes Control) Regulations 2009, Pt 6, s 105.

⁵⁸ Supra note11.

⁵⁹ The constitution of the Republic of South Africa 1996.

⁶⁰ NEMA No. 107 of 1998.

role is carried out through the establishment of principles that govern decisions involving environmental pollution and degradation, the creation of institutional frameworks that support collaborative governance, and the development of procedures for orderliness in environmental functions.

C. National Environmental Management: Waste Act (NEM:WA)

NEM:WA⁶¹, another ascertained legislation for managing Waste in South Africa. The goals of NEM:WA include dramatically reducing the quantity of waste produced while also making sure that, in cases when waste generation is unavoidable, strategies like recycling, reusing, and treating trash in an environmentally friendly way should be taken into consideration for implementation. It is crucial to keep in mind that the government must fulfill the requirements of the instrument in order to achieve these goals.⁶² It is so consequential to understand that NEM:WA's provisions must be interpreted along side with the provisions of NEMA and particularly the provision under section 2 of NEMA.⁶³ Moreover, Schedule one of NEM:WA contains a list of waste management operations requiring a licence. From the schedule, these operations are divided into category A and B. Category A are those which required certain basic assessment process similar to a provision of the EIA Regulation as contained in the NEMA, and it hierarchically include; the storage/transfer of waste, the recycling/recovery of waste, treatment of waste, disposal of waste on land, treatment/processing of animal waste and so on, while Category B focuses mainly on hazardous waste and are equivalent to those operations which required an EIA processes under the Environmental Impact Assessment Regulations.

D. Environmental Tax Regime

The applicable environmental tax scheme in South Africa includes the plastic bag levy, which makers of plastic carrier and flat bags must pay at a rate over 8 cents per bag. Once more, producers are required to pay a levy on luminescent light bulbs at a rate of 600 cents per bulb (if the bulbs are manufactured for use in South Africa)⁶⁴

⁶¹ NEM:WA No. 59 of 2008.

⁶² *Ibid*, s 3.

⁶³ *Ibid*, s 5.

⁶⁴ Ryan Brothwell, 'Lightbulbs, plastic bags and vehicles – under the radar taxes South Africans should know about', BusinessTech (South Africa 20 august 2018),

E. The Environmental Management Inspectorate (EMI)

Environmental enforcement employees from national, provincial, and municipal government ministries make up the EMI or inspectorate. They are classified as either:⁶⁵

- a. Environmental Management Inspectors (EMIs) by the Minister in charge Environmental Affairs, and in the case of Mining, the EMIs is designated by the Minister in charge Mineral Resources).
- b. A Member of a Provincial Executive Council.

The EMIs have access to a broad variety of administrative, disciplinary, and enforcement authorities. The authority included the ability to look for and seize any evidence and associated goods connected to any illegal activity. An officer of the South African Police Service has the authority to take action in relation to any NEMA-related offense. EMIs collaborate closely with the Police Services as a result.

F. Environmental NGOs

The South African environmental regime accepts NGOs⁶⁶. All stakeholders, including industry, trade unions, communities, and NGOs, must provide enough support for her legislative goals and policy plans. The National Framework for Sustainable Development (NFSD), established by South Africa, brings together the business community, the government, NGOs, civil society, academia, and other significant role players involved in sustainability and development-related issues. To emphasize, local environmental NGOs typically focus on topics that are most pertinent to the South African and Sub-Saharan setting. International environmental NGOs, however, play a crucial role in South Africa. The Federation for a Sustainable Environment, Birdlife South Africa, The Endangered Wildlife Trust, and The Centre for Environmental Rights are some of the

<wwwbusinesstech.co.za/news/finance/37629/lightbulbs-plastic-bags-and-vehicles-under-the-radar-taxes-south-africans-should-know-about/amp/>accessed on 21 July 2022.

⁶⁵ National Environmental Management Act No. 107 of 1998 (NEMA), cha.7.

⁶⁶ See, *Director: Mineral Development Gauteng Region & Sasol Mining v. Save* (1999) 2 SA 709 (SCA) where the court held that inclusion of environmental right in the set of fundamental human rights indicated that environmental considerations must be given appropriates recognition and respect in the administrative process.

environmental NGOs that are most active in South Africa. Other key regulatory and institutional frameworks in South Africa include:⁶⁷

- i. Department of Environmental Affairs (DEA).
- ii. Department of Mineral Resources (DMR).
- iii. Department of Water and Sanitation (DWS).

It is pertinent to emphasise that, all levels of government and all organs of state are co-operating, consulting and supporting one another on matters affecting the environment.

VII. Solid Waste Management Approach in South Africa

South Africa, a developing country like Nigeria, has a policy document ⁶⁸ on integrated pollution and waste management. This official document encapsulated the general waste objectives and management in the country. ⁶⁹ By implication, prior to the adoption of this document for implementation, the South Africa's waste policy framework was scattered among several agencies and legislations with so many conflicting interests. ⁷⁰ Hence, a bit-by-bit implementation strategy available at that time had been often proved imperfect.

Subsequently, a new policy⁷¹ came to live for a coordinated waste management measure for the purpose of simplifying waste legislation and implementation. The policy reformed the ministry of Environment to establish a sub-department to be dealing with all forms of pollution⁷². The policy, also, committed the country to the implementation of integrated municipal waste management programme using the Polokwane Declaration of September, 2001.⁷³

⁶⁷ Ibid.

⁶⁸ The document is by means of Government Gazette Staatkoerant Vol. 417 No. 20978, Pretoria 17 March, 2000. It is also called 'White Paper on Integrated Pollution and Waste Management for South Africa'.

⁶⁹ *Ibid*.

⁷⁰ Supra n70.

⁷¹ Supra n 72.

⁷² Including controlling of waste and waste related issues.

⁷³ Polokwane, Northern Province, South Africa Declaration on Waste, signed in September, 2001. The declaration is to address the problems of waste in the country of South Africa. The declaration set targets of reduction to landfills of 50% by 2012 and zero waste to landfills by 2022, though recently reversed to 70% by 2022.

For effective solid waste control and management practice in South Africa, the National Waste Management Strategy (NWMS) was, therefore, introduced to meet the world best practice.⁷⁴ In prompt response, the Department of Environmental Affairs and Tourism [DEAT], 1999 emphasizes the need for integrated waste management, which implies coordination of functions within the waste management hierarchy.⁷⁵ Accordingly, the diversion of waste from landfill through waste minimization and recycling is a national policy objective and priority under the White Paper on Integrated Pollution and Waste Management by the Department of Environmental Affairs and Tourism [DEAT], 2000, the NWMS and the Waste Act, which recognize and emphasize the importance of moving waste management up the waste hierarchy (greater emphasis on waste avoidance, minimization and recycling rather than committing waste to landfill in a bid to reducing further adverse impacts on downstream).⁷⁶

Waste minimization encompasses of a many of processes, mechanisms and stakeholders in the production, packaging, marketing, selling and consumption of goods that produce waste at all stages of the consumption. Accordingly, it requires a conscious, comprehensive decision and effort by all stakeholders to ensure that waste be minimized to reduced waste committed to landfill site lifecycles and the environment. Therefore, this processes that include; Improving product and packaging designs to reduce resource consumption; Changing marketing and sales approaches to influence consumer perceptions and behaviour; "Extended Producer Responsibilities" (EPR) of producers of products, which may require producers to accept their used products back for recycling; Changing procurement policies and practices in large organizations that should encourage environmentally-aware production and manufacturing; Encouraging waste separation, streaming and diversion practices; Creating infrastructure to enable waste to be diverted from landfill sites; Developing infrastructure for

⁷⁴ Mosidi M., 'Key Areas in Waste Management: A South African Perspective' in Nigeria' in Sunil Kumar (eds), *Integrated Waste Management* (Intech Open, Rijeka 2011) 71.

⁷⁵ *Ibid*.

⁷⁶ *Ibid*.

⁷⁷ *Ibid*, 76.

processing waste for reuse/recycling; and Developing markets for recycled materials and products;⁷⁸

Similarly, NWMS invokes the Polluter Pays Principle (PPP) as enshrined under principle 17, Rio Declaration of 1992 to deal with the issue of insufficient of funding associated with management of solid waste. The PPP implies that all waste generators, that is households and companies are responsible for paying all costs⁷⁹ associated with the waste they generate.

In a nutshell, south African solid waste management practice emphasizes that the National, Provincial and Local Authorities, as well as society and industry at large be aligned with policy implementation measures and means by which waste generation and disposal rates can be economically minimized. This is including the adoption of cleaner technologies, separation and recycling of wastes in view to minimizing waste.⁸⁰

A. Offences and Penalties

For discussion, NEM:WA provides that no waste management activity can be undertaken except; in compliance with the required standard required and must be approved by the Minister in charge of Environmental Affairs for such activity, or a required licence has been issued in respect of that activity, if required.⁸¹ Also, certain activities, such as unauthorised disposal, throwing, dropping, depositing, spilling of waste, y discarding any litter into or onto any public place, land, vacant place, stream, watercourse, street or road, or on any place to which the general public has access, except in a container or a place specifically provided for that are prohibited.⁸² However, a person commits an offence if that person contravenes or fails to comply with the provision of section 26(1) and section 27.

Similarly, section 67 contains offences under NEM:WA. Additional offence is outlined in subsection 2 which provides that, a person controlling a vehicle or in a position to control a vehicle transporting waste to be offloaded, commits an offence if the person(s); fail to prevent, or intentionally or negligently cause,

⁷⁹These include all direct costs associated with the safe collection, treatment and final disposal of waste, health and environmental damages.

⁷⁸ *Ibid*.

⁸⁰ Supra note78.

⁸¹ NEM:WA, No 59 of 2008, s. 19 (3) & 20.

⁸² *Ibid*, s. 26 & 27.

spillage or littering from the vehicle, dispose of waste at an unauthorised facility, fail to determine whether a facility is authorised to accept waste and fail to comply with a duty⁸³ assigned to the person transporting waste. ⁸⁴

On the issues of penalty, various penalties may include, but not limited to the followings:⁸⁵

- i. A person who commits an offence mentioned under section 26 of NEM:WA is liable to a fine of ZAR10,000,000⁸⁶ or to a jail term of 10 years, or both. Also, any other penalty or award may be imposed in addition.
- ii. A person convicted of an offence referred to under section 27(2) is liable to a fine of ZAR5,000,000⁸⁷ or to a jail term of 5 years, or both, in addition to any other penalty or award as case the may be.
- iii. A fine of a relevant court's determination and/or imprisonment for a period not exceeding six months.
- iv. If a convicted person persists with an act or omission that constituted an offence, or commits a continuing offence, he/she may be liable for a fine not more than ZAR 1,000⁸⁸ and/or imprisonment not exceeding 20 days, in respect of each day they persist with the offending conduct.

For emphasis, the court considers the following when considering the quantum of a fine:⁸⁹

- The gravity and the effect of the offence on the environment.
- Any benefits the offender received in connection with the contravention.

⁸³ *Ibid*, s. 25 (4).

⁸⁴ *Ibid*, s. 67 (2).

Rendani Kutama 'NEM: Waste Act Sections on Litter and Illegal Dumping '[2013] Litter and Illegal Dumping Meeting, http://www.gdard.gpg.gov.za/Services/Documents/Presentation%20RK%20NEM%20 Waste%20Act%20sections%20on%20litter%20and%20illegal%20dumping%2012%20 April%202013.pdf> accessed on 21 July 2022.

⁸⁶ Equivalent to \$596,954.34 which equivalent to \$249,043,381.10k.

⁸⁷ Equivalent to \$298,599.63, which equivalent to ₹114,72,779.64k.

⁸⁸ Equivalent to \$59.71, which equivalent to ₹24,910.41k.

⁸⁹ Section 26 (3) & 27 of NEM:WA No. 59 of 2008.

VIII. United Kingdom's Legal Framework

The legal framework in United Kingdom (UK) covers laws, institutions and programmes for sustainability in waste management. Nevertheless, the essential driving force remains the same, because national and local waste policies and strategies are targeted towards achieving the EU Framework Directives on waste. On this note, waste laws, policies, strategies and practices in UK (England, Wales, Scotland and Ireland) are based concurrently on three separate levels, that is, the European Legislation, National Legislation and Regional/local Legislation. Emphases here are on the European legislation and National legislation. Thus:

(i) European Legislations: these include; the Waste Framework Directive 75/442/EEC as amended⁹³. This Directive lays out broad guidelines on waste management which is aimed at protecting the environment against harmful and subsequent effects caused by improper collection, transportation, storage and disposal methods.⁹⁴ The Directive, on the whole, is aimed at encouraging member states in the use of waste recovery strategy to get wealth from waste in other to conserve natural resources. It also establishes requirements for licensing, regulation of carriers and the polluter pays principle. This Directive has since been amended by EU Directives 91/156/EEC and 91/92/EEC. The provisions contained in the Framework Directive were domesticated in the Law of England and Wales via the Environmental Protection Act of 1990 which was amended by

⁹⁰ Department for Environment Food and Rural Affairs (DEFRA), *Waste Strategy for England* (London, United Kingdom 2007) http://www.defra.gov.uk/defrasearch accessed 21 July 2022.

⁹¹ See the following EU Framework Directives; Directive 89/369/EEC-Prevention of air pollution from waste incinerators, Directive 89/429/EEC- Prevention of air pollution from waste incinerators, Directive 90/425/EEC-Animal Waste. Directive 99/31/EEC-Landfill etc.

⁹² Chukwunonye Ezeah and Clive Roberts, 'Analysis of Barriers and Success Factors Affecting the Adoption of Sustainable Management of Municipal Solid Waste in Abuja, Nigeria' [2012] 93 (1) *Journal of Environmental Management* 34.

⁹³ Directive 75/442/EEC was again amended In April 2006, by the European Parliament and Council to further consolidate, clarify and rationalize the legislation. The amended legislation, Directive 2006/12/EC do not however change existing rules in the member states.

⁹⁴ Europa (2006) Framework Directive on Waste (91/156/EEC). http://eurlex.europa.eu 21 July 2022.

the Environment Act (1995), together with a number of regulations on various aspects of waste management.⁹⁵ Other applicable European Legislation on Solid Waste matters in England include; Directive 89/369/EEC-Prevention of air pollution from waste incinerators, Directive 99/31/EEC-Landfill⁹⁶, the Environmental Liability Directive 2004/35/EEC⁹⁷ and so on.⁹⁸

(ii) National Legislation: under this heading, an emphasis is on waste legislation in England. According to Waste Strategy 2000, 'Legislation and policies governing waste handling and disposal in England have developed extraordinarily in the past 30 years. The principal aim is to constantly bring prevailing legislation in the country in agreement with governing European Union laws and policy directives. The following are major and auxiliary legislations currently regulate waste in England; Control of Pollution Act, 1974; Environment Protection Act (EPA), 1990⁹⁹; Environment Act, 1995; Environmental Protection (duty of care) Regulations, 1991 etc.¹⁰⁰

A. Department for Environment Food and Rural Affairs (DEFRA)

The Department for Environment Food and Rural Affairs (DEFRA) is the apex of all available Government Department responsible for waste and related environmental issues in the UK. DEFRA discharges its responsibilities through two avenues viz; the internal structures such as Waste Implementation

⁹⁵ Department of the Environment Transport and Regions, DETR *A waste strategy for England and Wales* (London, UK 2000) 34.

⁹⁶ The EU Landfill Directive requires the UK to reduce the biodegradable waste sent to landfill to 35% of the 1995 level by 2020.

⁹⁷ The Directive establishes a framework based on the 'polluter pays principle' to prevent and remediate environmental damage. This framework aims at ensuring that the economic operator bears the financial consequences from harm or damage caused to the environment.

⁹⁸ A waste strategy for England and Wales.

⁹⁹ In the United Kingdom, one of the sources of waste management is the Environmental Protection Act of 1990. S. 35 of the Act made provision for waste disposal authorities which are responsible for awarding contracts to various waste disposal contractors who may be private sector companies, or companies set up by local authority. This body issues licenses to waste management contractors and wastes cannot be deposited without a license. Section 37 of the Act made it an offence to treat, keep or dispose of waste in such a manner likely to cause pollution the environment and harmful to human health.

¹⁰⁰ A waste strategy for England and Wales.

Programme (WIP); and external organizations such as Waste and Resources Action Programme (WRAP), together with Business Resource Efficiency and Waste (BREW) and other third sector organizations¹⁰¹. DEFRA co-ordinates efforts aimed at achieving the overall objectives of government's waste strategy as encapsulated in the Waste Strategy (2007).¹⁰²

B. Waste and Resources Action Programme (WRAP).

The English government founded the WRAP, a nonprofit organization, in the year 2000. The program collaborates with other trash organizations and companies to implement a regular recycling process that will increase material and resource efficiency.¹⁰³

C. Business Resource Efficiency and Waste (BREW)

The BREW is a support program¹⁰⁴ that consists of several initiatives created by DEFRA in partnership with other businesses and stakeholders to increase resource efficiency. The BREW was implemented in response to Her Majesty's Treasury raising the landfill tax by £3 per tonne for the 2005–2006 fiscal year. The landfill tax was later raised to £48 per tonne in 2010 because it had become so important to use the extra funds raised as a result of the increase needed to fund environmental programs that could increase resource efficiency and, more importantly, reduce waste while also diverting it from landfill. It is crucial to highlight that businesses are urged to reduce the amount of waste prepared for landfills through this program. In addition, projects funded by BREW are delivered through another established programmes and institutions such as; WRAP, Resource Efficiency and Knowledge Transfer Network (KTN), Regional Development Agencies, (RDAs) etc.¹⁰⁵

¹⁰¹ Non-Governmental Organisation (NGO).

¹⁰² Department of Environment Transport and Rural Affairs, DEFRA *Waste Strategy for England 2007*. London: Her Majesty's Stationery Office.

Waste and Resource Action Programme, WRAP (2008) http://www.wrap.org.uk/wrap corporate> accessed on 10 July 2022.

 $^{^{104}}$ Department for Environment Food and Rural Affairs, Defra *Recycling and waste* (London, United Kingdom 2008a)

 12 July 2022. 105 Ibid.

D. Waste Implementation Programme (WIP)

The WIP was established in June 2003 by the DEFRA.¹⁰⁶ WIP was pictured at that particular period of time to have, among others, the responsibility to lessen waste in the municipality, especially Biodegradable Municipal Waste (BMW) and send same to the landfill with key intents to providing adequate aid which facilitates waste reduction, reuse and recycling as well as helping England to meet the targets¹⁰⁷ highlighted under Article 5 of the EU Landfill Directives.¹⁰⁸

The channel designed by WIP to realise the foregoing objectives include: Local Authority support, Local Authority funding, research funding for new technologies, data and information management, waste infrastructure delivery programme, efficiency initiatives, waste minimization programme, and waste awareness programme et cetera.¹⁰⁹

E. Third Sector Organizations

The 'Third Sector' is a term used to represent a wide range of laudable NGOs working in connection with waste England, in line with waste regulation. The NGOs include; Community Based Organizations (CBOs), Voluntary Organizations (VOs), charities, co-operatives, social enterprises et cetera. However, record has shown that over 1000 third sector had been estimated for serious participation in the management of waste in England alone, apart from other jurisdictions in the UK. 111

In all, the above mentioned programmes and institutional framework had recorded excellent performance which is making UK to standout in the area of solid waste.

¹⁰⁶ *Ibid*.

The targets prescribed by the EU Landfill Directives include; by 2010 to reduce biodegradable municipal waste landfilled to 75% of that produced in 1995; by 2013 to reduce biodegradable municipal waste. landfilled to 50% of that produced in 1995; and by 2020 to reduce biodegradable municipal waste landfilled to 35% of that produced in 1995.

¹⁰⁸ Supra n108.

Waste and Resource Action Programme, WRAP (2008) http://www.wrap.org.uk/wrap_corporate accessed on 12 July 2022.

¹¹⁰ $\bar{I}bid$.

¹¹¹ *Ibid*.

F. Offences and Penalties

It is in the interest of this paper to shed light on offence and penalty provisions under the EPA, 1990, it is provided that whenever a controlled waste is deposited on land, authorities are under responsibilities to give notice to the occupier in order to remove it. It is, therefore, a crime to disturb the removal of waste deposited for collection, and if such crime is perpetrated a Magistrates' Court, on summary conviction, can fine an offender up to level 5¹¹² on the standard scale¹¹³. In the same vein, breach of sections 33¹¹⁴ and 34¹¹⁵ are criminal offence with serious penalty. So, for offence of this nature to be committed by businesses, it attracts unlimited fines, jail term, seizures of vehicles and payment of clean-up costs. Similarly, if the offence is committed by the occupier of the premises of business, the maximum fine is £40,000. 116 Moreover, having given notice, but not complied with, the local authority may abate the nuisance and recover the expenses from the occupier, though a court action. It is more importantly to note that, recovery of response may be by instalments or making a charge on the property of the business. 117 Section 87of the Act also makes leaving litter of any kind a criminal offence. Accordingly, any person who throws down or deposits

¹¹² Under the UK Standard Level, Level 1 = £200, Level 2 = £55, Level 3 = £1,000, Level 4 = £2,500 and Level 5 = above £2,500 and unlimited. Thus, the Level 5 referred to is equivalent to over \$1m.

¹¹³ Section 60 of the UK Environmental protection Agency Act, 1990. Note that the Standard Scale is system whereby financial crime penalty i.e fines under legislations have maximum levels set against a standard scale. So, during inflation, the level of such fine increases by modifying the scale by the legislator.

No person may treat, keep or dispose of controlled waste in a manner likely to <u>cause</u> pollution of the environment or harm to human health, except in the case of domestic household waste treated or kept or disposed of on the premises.

¹¹⁵ Section 34(1) imposes a duty on 'any person who imports, produces, carries, keeps, treats or disposes of controlled waste or, as a <u>broker</u>, has control of such waste, to take all such measures applicable to him in that capacity as are <u>reasonable</u> in the circumstances': To prevent any contravention by any other person of section 33; To prevent any contravention of certain (i.e. specific) provisions of the Pollution Prevention and Control Regulations; To prevent the escape of the waste from his control or that of any other person; and On the transfer of the waste, to secure that the transfer is only to an authorised person or to a person for authorised transport purposes and there is transferred such a written description of the waste as will enable other persons to avoid a contravention section 33 or the Pollution Prevention and Control Regulations.

¹¹⁶ UK Environmental protection Agency Act, 1990, s. 80 (6).

¹¹⁷ *Ibid*, s. 81 (3-4).

into or from any place stated under this section or leaves anything whatsoever in such circumstances which causes or contributes to, or able to lead to the defacement of any place to which this section applies, such a person shall be guilty of an offence during conviction. Nevertheless, there are certain exceptions to this provision by virtue of section 87 (2) that, where the person has lawful permission or consent to do so. Offenders under the section of the Act can, on summary conviction in the Magistrates' Court, be sentenced to a fine of up to level 4 on the standard scale. Similarly, under the Environmental Protection (duty of care) Regulations of 1991, breach of the duty of care or under the Regulations is a criminal offence as EPA provides that any person who violates the duty of shall be summary convicted to a fine of the statutory maximum and to a fine in the case indictment.

IX. Solid Waste Management Practice in United Kingdom

The primary responsibility for creating and carrying out legislation rests with the government of the United Kingdom (UK). However, recent legislation has given the Scottish parliament, the national assembly for Wales, and the Northern Ireland government responsibility for some aspects of environmental protection, including waste management. ¹²¹ The legal frameworks for managing Solid Waste are at three separate levels; European legislation, National legislation and Regional/local legislation. ¹²² Peradventure, this is why the legal framework in the U.K seems sophisticated.

Sustainability in Municipal Solid Waste Management (MSWM) has become a key concern in the UK as a result of the 1992 Earth Summit. Given the intolerable conditions of historical system inefficiencies, a radical transition towards

¹¹⁸ *Ibid*, s. 87 (1).

¹¹⁹ *Ibid*, s. 87 (5).

¹²⁰ *Ibid.* s. 34 (6) (a & b).

¹²¹ Stephen B, 'The impact of the European Landfill Directive on Waste Management in the United Kingdom' [2006] 32 (3-4) (the Open University, Milton Keynes, Mk7 6AA, United Kingdom) 349-358.

Department for Environment Food and Rural Affairs, Defra *Waste Strategy for England* (London, United Kingdom 2007) http://www.defra.gov.uk/defrasearch 12 July 2022.

sustainability in waste management became unavoidable 123. Therefore, the essential practices consist of:

- i. Best Practicable Environmental Option (BPEO). The BPEO procedure established for a particular set of goals. In both the short and long terms, the approach offers the most advantages and causes the least environmental harm at a reasonable cost.
- ii. The Waste Hierarchy which is the second one is linked to conceptual and regulatory frameworks that provide direction for the activities to be taken into account when evaluating the BPEO.
- iii. The Proximity Principle, according to this notion, garbage should be possibly disposed of around where it was generated. According to this approach, the possibilities include:

(a) Waste Minimization/Prevention System

Waste minimization and prevention are terms that deal with reducing waste generation and enhancing its quality, according to Read et al¹²⁴. As a result, the minimization and prevention system encourages reusing, recycling, and recovering as best practices and lessens the risk in waste generated. The UK's MSWM hierarchy places waste minimization at the top as the most preventive approach.

(b) Recycling and Composting System

The UK is required by the EU Landfill Directive, along with the other EU member states, to reduce the amount of municipal solid waste that is landfilled, starting from the levels in 1995 and decreasing to 75% by 2010, 50% by 2013, and 35% by 2020. However, failing to fulfill these goals exposes the UK to a maximum penalties of £500,000 per day for non-compliance after 2010, which will

¹²³ Paul S. Phillips, Adam D. Read, Enne A. Green & Margret P. Bates, 'UK waste minimisation clubs: a contribution to sustainable waste management' (1999) 27(3) Resources, Conservation and Recycling 217-247.

¹²⁴ Read A. D, Phillips P. S & Murphy A, 'English County Councils and Their Agenda for Waste Minimisation' (1997) 20(4) Resources, Conservation and Recycling 277-294

ultimately fall on Local Authorities. ¹²⁵ . As a result, some of the best-performing Local Authorities had been using both recycling and composting systems to dispose of over 58% (instead of the national objective of 40% by 2010) of their municipal garbage in accordance with the Directive. ¹²⁶

(c) Energy Recovery System

An additional preferred practice option in the hierarchy is energy recovery, which is accomplished by the cremation of solid waste. According to DEFRA¹²⁷, waste incineration treats about 10% of the total volume of MSW produced in England in 2007/08 for energy recovery, or roughly 2.8 million tonnes annually. The UK as a whole operates approximately 55 incinerators that treat MSW, with each facility's annual operating capacity for trash consumption ranging from 23,000 tonnes to 600,000 tonnes. It is important to note that the UK still uses less incineration as an MSW management option than other EU countries like France, Sweden, and Denmark, with 32%, 52%, and 55%, respectively.¹²⁸

(d) Disposal

Final Disposal through an approved sanitary landfill system is the next most desirable option in the hierarchy. Due to the fact that a sanitary landfill is more of an engineering, planning, and administrative norm than an open dumping system

¹²⁵ Karousakis K & Birol E, 'Investigating household preferences for kerbside recycling services in London: A choice experiment approach' (2008) 88(4) Journal of Environmental Management 1099-1108.

¹²⁶ McDonald S & Oates C, 'Reasons for non-participation in a kerbside recycling scheme' (2003) 39 (4) Resources, Conservation and Recycling 369-385; Tonglet M., Phillips P. S & Read A. D, 'Using the Theory of Planned Behaviour to investigate the determinants of recycling behaviour: a case study from Brixworth, UK' (2004) 41 (3) *Resources, Conservation and Recycling* 191-214; Tonglet M, Phillips P. S & Bates M. P, 'Determining the drivers for householder pro-environmental behaviour: waste minimisation compared to recycling' (2004) 42(1) *Resources, Conservation and Recycling* 27-48.

¹²⁷ Department for Environment Food and Rural Affairs, Defra *Incineration of municipal solid waste in the UK* (London, United Kingdom 2008b) accessed on 21 July, 2016. http://www.defra.gov.uk/environment/waste.

¹²⁸ Incineration plant is defined by the Waste Incineration Directive to mean any mobile or stationary equipment unit committed for thermal treatment of all sorts of wastes for the purpose of either recovery or non recovery of heat combust generated. Co-incineration plant is any mobile or stationary unit for the purpose of energy recovery.

or practice, this method is slightly more logically superior to an open dumping system. 129

From the foregoing, it is pertinent to pinpoint that the MSWM Best Practice in the UK is functioning well due to certain supports and programmes in place. In light of this, Phillips et al. recognized the key support programs for MSWM Best Practice in the UK as comprising a number of legislative frameworks that have been built through time at both the government and non-governmental levels. 130

X. Lessons for Nigeria

A. South Africa

The Environmental Tax Regime in South Africa levies a type of tax that is applied to producers of plastic carrier bags, flat bags, and fluorescent light bulbs at a rate of 8 cents per bag and 600 cents per lamp, respectively, if the bulbs are produced for use in South Africa. The tax system helps to minimize all forms of unreasonable and unmanageable solid waste output while also providing the government with a source of cash. The tax due under the scheme is determined by the number of plastic bags and light bulbs produced. If Nigeria implements the same or a comparable tax regime in the field of waste management, it will likely reduce impure and illogical solid waste in addition to acting as another internal revenue source. Furthermore, integrated pollution and waste prevention system, which aligned with the UK's waste strategy in the Hierarchy, is in practice in South Africa. Additionally, South Africa has unique waste laws that address solid waste management in its entirety. To assure a stronger focus on solid waste, along with its prevention and reduction, the Nigerian government may, like her South African counterpart, develop particular trash laws. Polluters Pays

¹²⁹ O. Zerbock, 'Urban Solid Waste Management: Waste Reduction in Developing Nations' [2003] Michigan TechnologicalUniversity 265-279, Accessed on 20 May 2014.
http://www.cee.mtu.edu/peacecorps/documents/Waste_reduction_and_incinerationFINAL.pdf

¹³⁰ Phillips P. S, Holley K, Bates M. P & Freestone N. P, 'Corby Waste Not: an appraisal of the UK's largest holistic waste minimisation project' (2002) 36(1) Resources, Conservation and Recycling 1-31.

¹³¹ See the South Africa Government Gazette Staatkoerant Vol. 417 No. 20978 March, 2000.

¹³² NEM:WA No. 59 of 2008.

Principle (PPP)¹³³is in South African management strategies, so adopting the ideology in the PPP would assist Nigeria to mitigate solid waste generation, hence it imposes minimization of waste generation as obtainable in South Africa.

Last but not least, South Africa has implemented draconian measures, such as harsh fines and jail terms. For instance, a person found guilty of the crime listed in section 26 of the NEM:WA is subject to a fine of ZAR10,000,000 (equivalent to N249,043,381.10k in Nigeria) or to a term of imprisonment of not more than 10 years, or to both, in addition to any other punishment or award that may be imposed as provided by the NEMA. In order to make the punishment provisions strong enough to act as a deterrent, Nigeria can reconsider and evaluate the laws that apply to waste management.¹³⁴

B. United Kingdom

In the UK, the management of solid waste is a shared responsibility between County Councils, which serve as trash disposal authorities, and the Environment Agency, which is in charge of overall environmental control. All Districts or Borough Councils function as Waste Collection Authorities within a County. In contrast to the typical two-tier system, unitary authorities consolidate the disposal and collection authority's responsibilities under a single layer of local government. This calls attention to the study's understanding of the UK's approach to managing solid waste, which takes the shape of a division of labor and responsibility. Therefore, in order to lessen the burdensome obligation placed on one level of government over the others, the Nigerian government can adopt this developed approach.

In line with the philosophy of the EU Directive¹³⁵ on waste reduction, the Federal Government of Nigeria can set a policy direction that will set a target of waste

¹³³ Principle 1 of the 1992 Rio Declaration

¹³⁴ The section prohibits certain activities, such as unauthorised disposal, throwing, dropping, depositing, spilling of waste or in any other way discarding any litter into or onto any public place, land, vacant place, stream, watercourse, street or road, or on any place to which the general public has access, except in a container or a place specifically provided for that.

¹³⁵ The directive set a target to reduce waste by 2010 biodegradable municipal waste landfill to 75% of the waste produced in 1995; by 2013 to reduce same waste land filled to 50% of the waste produce in 1995; and finally to reduce same waste land filled to 35% of that produced in 1995.

reduction level for every State as this will go a long way to assist Ilorin metropolis of Kwara State to reduce the volume of waste generation at all cost. The anticipated policy can be subject to periodic review, perhaps in every 4 years

Additionally, the 3R philosophy, which is the cornerstone of the United Kingdom's waste strategy, can be incorporated into Nigeria's systems and practices because it will significantly boost the country's economy. For instance, "Reuse" lowers the volume of garbage at the source, which lowers the volume of waste that needs to be treated or disposed of 136.

Similarly, penalty on environment related offences are so severe in most of developed countries like UK. Thus any severe penalty, be it jail term, fine or both, will definitely serve as deterrence in Nigeria. For instance, penalty on conviction for breach of 'Duty of Care' imposed on any person violating the provision under the U.K Environmental Protection Act ¹³⁷ is £40, 000 which is equivalent to about №15,968,000.00k in Nigeria, if such a huge amount of money can be fixed as a penalty in Nigeria, deterrence will be assured.

XI. Conclusion

Overall, the concept of managing solid waste is no longer novel in Nigeria due to the numerous institutions and laws already in place that were designed specifically for this purpose in accordance with the constitution. According to the Constitution's provision, it is the duty of the State authorities to protect the environment, particularly in the area of solid waste. All of these have been tailored to ensure a safe and clean atmosphere.

In contrast, this article demonstrates that the Nigerian legislative framework for solid waste is insufficient, the general public's attitude toward solid waste management is carefree, and there are overlaps across legislation in terms of their provisions and mandates. In the interim, a particular act with a primary focus on solid waste may have better addressed the requirement under the applicable statutes than the current arrangement that combines several statutes.

In conclusion, considering lessons from South Africa and the United Kingdom, it is recommended that there is a need for separate laws on solid waste in Nigeria, introduction of an environmental tax regime, and change in penalty sections in

¹³⁶ In terms of industrialization, employment and revenue generation.

¹³⁷ UK Environmental Protection Act, 1990, s 33 and 34.

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the existing laws in an effort to ensure that the prescribed penalties are heavy so as to guarantee deterrence.