

ADDRESSING THE MENACE OF WASTE THROUGH ENVIRONMENTAL LEGISLATIONS IN NIGERIA*

Abstract

Adequate Waste management has become imperative in Nigeria. The old Slogan 'Dirt does not kill the black man' has tended to make Nigerians ignore the consequences of improper management of waste. This paper examines waste problems, managerial methods, effect of poor waste management practices and legal framework controlling waste in Nigeria. Areas also examined include: definitions of waste, role of environmental courts and the two-sided coin analysis of waste. After careful analysis and discussion of the issues of waste and the regulatory mechanisms, it was observed that Nigeria, has an array of environmental legislation, but the problem is embedded in the negative attitude of persons who had little or no regard for the waste laws. Also, the strength of enforceability appears lacking. Poor methods of environmental sanitation and proper waste management practices were also observed. The methodological approach is doctrinal, with recourse to relevant books, journals, statutes, internet sources, and encyclopedia and newspaper reports. The paper proffers suggestions for proper waste management as observed in developed countries. The need for adequate utilization of funds allocated for waste management, as well as sensitization and enlightenment of the public on the dangers of improper waste management is recommended.

Keywords: Environmental, Legislations, Menace, Management, Waste

1. Introduction

Escalating growth of human biomass has caused a sky-rocketing increase on natural resources and consequential drain on the available resources. The amount of waste materials produced by human society as a result of technological advancement and new discoveries has multiplied wastes. As waste increases in amount, their nature and content have also changed to include the following; insecticides, plastics, polymers, heavy metals, toxic trace elements and scraps to mention a few. These waste materials are causing pollution and disruption to environmental balance. Acid rain¹ has surfaced in some parts of Nigeria; such as the Niger Delta region, the stratosphere is being polluted, the ozone layer is diminishing. Pollutants which emanate from waste have contaminated the surface of fresh waters, land and the atmosphere. The biosphere, lithosphere and stratosphere have come under heavy pollution resulting from generated wastes and improper waste disposal methods². Effects of waste menace are implicated in the increase of new discovered diseases, deaths, infant mortality and paralysis. These waste materials and dumpsites breed flies, and microbes which can be seen clearly under the microscope. Many pests and vermin thrive better in waste disposal sites and on waste materials. National and International environmental legislations have to some extent been helpful in addressing waste problems. The result of some proper waste management systems being employed are showing up positively in reducing mortality rate. Bell and McGillivray (2000) stated that 'the production of waste is a natural consequence of life in an industrial society'. This does not mean that they cannot be properly managed.

World Bank estimates that the waste generation will increase from 2.01 billion tonnes in 2016 to 3.40 billion tonnes in 2050³. Except there is significant reduction in the amount of waste currently produced, it is anticipated that the total waste presently would have multiplied by 2050. Unfortunately, at least 33% of these wastes are mismanaged globally today through open dumping and burning.⁴ There is thus, urgent need to regulate the whole waste cycle from the production of the waste through the handling, storing, transportation and treatment of waste up to final disposal to avoid environmental threats.

2. Concept of Waste

Generally, waste can be defined as something that is assumed to have no value and is to be discarded. That waste has no value is only an assumption, because a thing which is seen to be waste by one person⁵, could eventually be

*By **Obioma Helen ONYI-OGELLE, PhD**, Reader, Faculty of Law, Nnamdi Azikiwe University Awka Nigeria, and

***Deborah NWOSU, PhD Candidate**, Faculty of Law, Nnamdi Azikiwe University Awka Nigeria.

¹ [1] J.K Nduka et al 'Acid rain phenomenon in Niger Delta region of Nigeria: *Economic, biodiversity and public health concern. Scientific World Journal* 2008, available at <https://www.ncbi.nlm.nih.gov>.

² D.K. Asthana and M. Asthana, *Environment (Problems & Solutions)* (S. Chand & Company O vT Ltd. 2008 at 26

³ 'What a waste'. Available at www.worldbank.org/what-a-waste/a-global-snapshot-of-solid-waste-management-to-2050 assessed on 26/6/19

⁴ Ibid

⁵ See (1987) *Berridge Incinerators Ltd v. Nottinghamshire Country Council* cited in Malcolm 1994 *A Guide Book to Environmental Law* London: Sweet & Maxwell 1998.

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wealth to another. In this light, wastes have been referred to as objects or substances which are intended to be disposed of⁶. In the same connection then Oxford Advanced Learners Dictionary defines waste as something that is no longer useful and is to be thrown away or disposed of⁷. In the perspective of the law, the environmental pollution control law of Lagos state⁸ defines wastes to include(a)Wastes of all description both domestic and industrial (b) Liquid, solid, gaseous or oil, organic vapor, corrosive reagents, flammable liquid acid, poison, toxic substance, radioactive material's cement waste and a host of others. For many years, waste has been defined as including substance or articles which are scrap or which were broken, worn out, contaminated or spoilt.⁹ The concept of waste has proved particularly difficult to define with any certainty because there is no physical characteristics which can be used to define waste¹⁰. In the case of *Palin Grant Oil v. Vehmassaion Kansacnter Vergston*¹¹Mr. Palin stored left over stone at a granite quarry in Finland. The Finland Waste Authority considered that the left over stones was waste for the purpose of Finish Law since evidence of re-use could not be provided. In the case of *R v. Rotterdam Metropolitan Borough Council Export Pakin*¹² Justice Schiemann-held that the term 'waste' should be given its ordinary meaning. The point of view of the person actually discarding the waste is regarded by judicial opinion as the determinant of waste, but persuasive decision regarding the nature of the material as the determining factor. It was held, in the case of *Kent County Council v. Queen Borough Polling Mill Co. Ltd* (1990) that the relevant consideration for determination of waste was the nature of the material when it was discarded. Even though it had been used to fill an area, it remains waste until adequately recycled. Lord Justice Carnwath noted:

The subjective intention to discard' may be a useful guide to the status of the material in the hands of the original producer. However, it is hard to apply to the status of the material in the hands of someone who buys it for recycling; or who puts it to some valuable use. His intention is opposite to the person 'discarding it.

In the context of this publication, the concept of waste is subjective being open to several contending definition and interpretation.

3. Classification and Categories of Waste

Waste could be classified according to its source of generation, for instance, Industrial waste¹³, Household waste, Hospital waste, Commercial waste. It can also be classified according to the degree of harm it can cause. Hazardous wastes are more dangerous than household or industrial wastes¹⁴ Wastes can be further categorized into two broad categories: Solid wastes and Liquid wastes. Solid wastes include the following:¹⁵garbage (putrescible – decomposable), rubbish (non – putrescible), dead animals, pulp, packaging materials, rags, industrial waste, and agricultural waste. Liquid waste¹⁶ (such may contain a lot of semi-solid and solid) include sewage water, waste waters, and industrial discharge

4. Effect of Poor Waste Management Practices

Health implications: - Inadequate sanitation and poor waste management are the two main transmitters of diseases in the world's developing countries¹⁷. This waste provides adequate breeding ground for carriers of infectious diseases. Pesticides used for agricultural production, chemicals, effluents, metals, lead and waste are harmful to flora and fauna and can even lead to death. Environmental matters initiated by negative agricultural practices should not be treated as civil matters but as criminal violations. See the case of *State of IOWA v. Ted.B. Diehl's* (filed by IOWA

⁶ Article 2(1) of the Basel convention Gwam, C.U, 2010 Toxic waste and Human Rights Indiana

⁷ Oxford Advanced Learner's Dictionary 4th edition

⁸ see section 27 Environmental pollution control law (Lagos State) 1991

⁹See Section 75 Environmental Protection Act (EPA) COPA; Section 30 Control of Pollution Act (OPA), although this definition has been replaced by the provision of section 75 (2) Environmental Protection Act, (1990) of England.

¹⁰ I. Cheyne and M. Purdue (1995) 7 JEL 149

¹¹ (1993) ENVLR 391

¹² (1990) QB

¹³ P.A Ogwu and O.G Ogu.'Impacts of Industrial Effluents Discharge on the Quality of the Nwiyi River Enugu South Eastern Nigeria. *Journal of Environmental Science and food and Technology*IOSR.Vol 8,2014 PG, 22-27.Avaliable://www.iosrjournal.org

¹⁴Leeson, L.E 1995. Environmental Law: London: Pitman Publishing 351. Cited in P.T Akper'transboundary Disposal of hazardous waste: Where is the refuse for?

¹⁵ A. Rim – Rukeh*Environmental Science: An Introduction*(Ibadan:Kraft Book Limited 2009 at 440).

¹⁶D.K. Asthana and MeeraAsthana'Environmental problems and solution. (S. Chand and Company PVT. Ltd (2008) at 135

¹⁷EO Arene, 'Dumping of Hazardous waste on African coast cited in *Selected Essays on petroleum and Environmental Law* by V. O.O Aigbokhaevo 'waste management in Nigeria: A comparative analysis.

Attorney General Environmental Crime Team)¹⁸The trial court convicted on four counts of negligently polluting the river with agricultural waste. A fine of more than \$25,000 was awarded.

Flooding incidence: - wastes find their way into drainage system, blocking free flow of water resulting in flooding. Channels like moat which are used for free waters have become dumping ground for waste. On the 27th of September 2018, it was reported that flood killed almost 200 people across 12 states of the country when river Niger and Benue burst their banks. An estimate by National emergency management agency (NEMA)¹⁹.

It erodes the aesthetic value of the environment: - It gives an ugly and despicable look to the environment. Owerri, Imo State Capital, which had the cleanest state capital has turned awry, as a result of indiscriminate dumping of wastes and lack of sanitation exercise²⁰ Although the Government has pledged its commitment toward environmental matters in the State.

Waste pollutes water bodies:-Waste makes polluted water unfit for consumption while killing aquatic habitat. Typical is the example of oil waste polluting the land and water in the Niger Delta region further impoverishing the people.

5. Waste of Fertile Land: - Fertile lands meant for building and agricultural purposes have now been converted to dumpsites²¹

Waste Management Techniques

Waste management means the organization and systematic dumping and channeling of waste through or into landfills or pathways to ensure that they are disposed of adequately to acceptable public health and environmental safeguard²². Waste management entails proper disposal and treatment of wastes generated from animals, humans and industries such as chemicals, sewage household garbage and biological waste.²³ Waste management techniques are methods devised for proper handling of generated waste in an environmentally sound manner.

Top Waste Management Methods

1. **Incineration:-** incineration is the process for the high temperature -oxidation of gases, liquid or solid waste, converting them into gases and an incombustible solid residue
2. **Ocean or sea dumping:** -This involves the practice of dumping waste into the sea. Such practices are not advisable as they cause damage to the sea habitats and pollute the sea water
3. **Sanitary Landfills:** - Sanitary Landfills are land disposal sites, where wastes are deposited in layers and compacted by bulldozers before another layer is added and covered by clean earth daily.
4. **Recycling:** - This process involves recovering of usable materials and recycling them into other uses. Materials which could be recycled include aluminum cans, waste papers, bottles, used tyres and others.
5. **Compositing:** -Is the biological decomposition of organic waste. This occurs by biodegrading of the organic portion of solid waste by aerobic, mesophilic and thermophilic microorganisms, which helps to further break them down. Compositing is nature's way of recycling.

6. Environmental Regulations for Addressing Waste Menace in Nigeria

The Nigeria constitution provides an umbrella for environmental legislations even in the area of waste management. Section 20²⁴ provides to the effect that States shall protect and improve the environment and safeguard the water, air, land, forest and wildlife. Probably the issue of states protecting the environment would have been taken more seriously if section 20 did not fall under chapter II of the Constitution which is the non-justiciable chapter by virtue of section 6(6) (c) of the Constitution. In the case of *Bishop Okoye (Trustee of Roman Catholic School) &ors v.*

¹⁸Marywood, Criminal no.13347, filed september 11 1992.

¹⁹ Available at www.ajazeera.com/news/2018/Nigeria-floods-death-toll accessed 26-6-19

²⁰see Nations Newspaper. 'The Southern East report 'Friday June 7, Pg. 21 2019

²¹ See K.M. Mowoe. 'Quality of life and Environmental pollution and protection', Ed. J.A. Omotala, *Environmental Laws in Nigeria including Compensation.* (Nigeria: Faculty of Law University of Lagos) 1990 pg. 171

²²Arene E.O 'Dumping of Hazardous waste on Africa Coast cited in *Selected Essays on petroleum and Environmental Law* by V.O.O. Aigbokhaevbo 'waste management in Nigeria! A comparative Analysis.

²³ Christian Women's Mirror Magazine 'Environmental Sanitation'. October 2018 p.8

²⁴ Section 20 1999 constitution of the federal

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*Attorney General Lagos State*²⁵, Mamman Nasir said ‘...no court has jurisdiction to pronounce any decision as to whether any organ of government has acted or is acting in conformity with the fundamental objectives and directive principles of state policy.’ Also, a right to life as provided for in Section 33(1)²⁶ of the Constitution can only be feasible in a healthy environment. An unhealthy environment is automatically a threat to life. Therefore, since the constitution envisages a right to life, therefore, a right to a clean and healthy environment is vital for human existence. The Criminal Code²⁷, Section 234 (e) states that any person who willfully diverts or obstructs a public facility or water body, this could also include obstruction caused by illegal dumping of wastes into rivers diminishing its convenience for purposes of navigation is guilty of a misdemeanor and liable to imprisonment for two years. Section 245 – Any person who corrupts or fowls the water of any spring, stream, well, tank, reservoir, or place as to render it less fit for the purpose for which it is ordinarily used is guilty of a misdemeanor, and is liable to imprisonment for six months. This also includes dumping of indiscriminate waste into water bodies, and any place rendering it less fit for its ordinary purpose commits an offence.

Under the National Environmental Standard Regulation Enforcement Agency (NESREA), the Minister is empowered by Section 34 of the NESREA Act to make regulations amongst which is the National Environmental (Sanitation and Wastes Control Regulations 2009). Some of the provisions of the Act are as follows:-Section 7 spells out the functions of the Agency and empowers them to enforce compliance with the laws even in the area of waste disposal and management. The purpose of National Environmental (Sanitation and Waste Control) Regulations 2009 is to provide a framework to control environmental sanitation and waste management with the aim of minimizing pollution. Under the regulation, section 3 (1) provides; No person is to discard, throw or drop any litter or any similar refuse anywhere except in designated litter bins. Section 3(2) provides that - No owner, operator, occupant or person in care, management or control of premises is to allow the release of litter into the environment. Section 3(4) provides that - Any person whose activity generates waste shall ensure that the waste is handled by a person licensed to transport and dispose of waste in designated waste management facilities. (After a brief inquiry from those boys who use iron trucks to carry garbage where they dumped the refuse the exact location they dumped refuse, they admitted dumping the refuse in moats and undeveloped sites). Section 64 (1) provides that States shall establish sanitation and integrated waste management programs and ensure the provision and maintenance of abattoirs, adequate toilets and urinals in public places and waste receptacles in the streets and premises Section 72 – 93 provide for the various offences. It is an offence to release litter into the environment and failure to maintain sound waste management practices. By Section 94, anyone found in violation of the regulations. In the provision of regulation 71^{(a)-(1)} shall be guilty of an offence and on conviction be liable to a fine of N20,000 or imprisonment for six months. For breach of regulations 71 (k) – (r), Section 95 provides that such a violator is liable to a fine of N200,000 or imprisonment of 1 year. Regulations 101 – 104 provide that any violator of regulations 77 shall be guilty of an offence and on conviction be liable to a fine of not exceeding N500,000 or imprisonment of 2 years.

Another relevant legislation is Harmful Waste Special (Criminal Provision) Act²⁸ This Act prohibits all activities which relate to harmful waste, and other wastes. Section 2 (a) provides thus: ‘Any person who carries, deposits, dumps or causes to be carried, deposited dumped ... any harmful waste on any land or territorial waters or contiguous zone or exclusive economic zone of Nigeria or its inland waterways...’. Penalties are provided for in section 6 of the Act: ‘Any person found guilty of a crime under Sections 1 – 5 of the Act shall on conviction be sentenced to imprisonment for life and the carrier or container used shall be forfeited to the Federal Government. Civil liability is provided for in section 12 of the Act: ‘Where any damage has been caused by any harmful waste deposited on land or territorial waters any person who dumps, deposits or imports harmful waste shall be liable for damage, except the damages was due to the fault of the sufferer or the sufferer voluntarily accepted it.

Another is the National Environment Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulation²⁹. The aim of the Regulation is to restrict industrial facilities from releasing hazardous or toxic substance into the air, water or land of Nigerian ecosystem beyond the limit approved by the Agency. Section 16 (1) provides that ‘Solid waste generated by an industry or facility, including sludge and all by product, resulting from

²⁵ (1981) 2 NCLR 337, CA

²⁶ Section 33 (1) of the 1999 constitution

²⁷ Section see section 234 & 245 criminal code 1990

²⁸ Harmful waste special (criminal provision Act) 1988

²⁹ National Environment protection (pollution Abatement industries and facilities generating waste) Regulation (1991). These regulations made under section 39 of the federal environment protection Agency Act (this act has been repealed by the Nesrea Act but as a foundational legislation is necessary to make reference to it.

the operation of pollution abatement equipment, shall be disposed of in an environmentally sound manner. Section 22 provides that ‘A person or body, whether corporate or not who contravenes any provision of these regulations shall be guilty of an offence and liable on conviction to be penalized.

Other laws include; Environmental Impact Assessment Act (EIA)³⁰, National Oil Spill Detection and Regulation Agency Act (NOSDRA)³¹ Public Health Act³², National Environmental (Permitting & Licensing System) Regulation³³ and other state environmental waste management laws like Anambra State Environmental sanitation No 15³⁴ (1985), Environmental Sanitation Law of Lagos State³⁵. Abuja Environmental Protection Board (Solid Waste Control) Regulation³⁶, Rivers State Environmental Sanitation Edict³⁷. Other International Legislations to which Nigeria is a signatory include: African Charter on Human and People’s Rights (Ratification and Enforcement) Procedures Act³⁸ Article 24, Basel Convention³⁹, Agenda 21.⁴⁰

From the array of legislations it can be deduced that Nigeria is not lacking in environmental legislations, but the issue of waste still persist. The main problem lies in the fact that the judiciary system has done more in terms of ensuring that violators are penalized. Such will serve as deterrence to those frequently pollute the environment with waste material and have never been punished. In Developed nations, littering of the environment, like discarding waste out of a moving vehicle is highly penalized. In developing countries this is normal trend and violators go Scott free. Also, more attention should be focused towards recycling of waste by the Government and Private establishments. Members of the society should take it as their social responsibility to ensure a clean and healthy environment free from waste by cooperating with the dictates of environmental legislations.

7. Waste a Menace or a Material

Waste generation cannot be halted. Production activities have increased drastically. Increased demand for products, and high human population consuming these products which inevitably must lead in waste generation. According to lesson⁴¹, Rubbish like the poor, is always with us, the production of waste being an inevitable consequence of human activity. What one person considers as waste might be another person’s raw material and a means of survival. In Democratic Republic of Congo, a Congolese musician (Pisko Crane) founder of the Fulu Muzika group actually collect materials from refuse dumps to make instruments for entertainment. They say they seek inspiration from garbage and also try to sensitize the people and the government on the hazards of waste⁴². Democratic Republic of Congo generates about 9,000 times of waste daily. Nigeria according to waste management society (WAMASON)⁴³ generates about 65 million tonnes of waste annually. Recycling of waste is very important, in Nigeria young boys who push customized wheel barrows go from one waste site to another, collecting scraps and materials from waste sites to locations specifically designated for recycling and production of these waste into usable materials. On the other hand, wastes which cannot be recycled should be properly handled and disposed of in an environmentally friendly manner, like decayed items and waste waters. Reuse of waste is encouraged, if waste cannot be prevented it should be recycled, or disposed of as close to where it was produced as possible. If something is ‘waste’ then the holder of the waste is subject to a set of strict legal obligation to ensure they are responsible for it⁴⁴. Responsibility is fundamental for all citizens of Nigeria. According to our findings, waste can either be a menace or a raw material. What is important is proper handling practices and responsibility.

³⁰ Environmental impact Assessment Act (EIA) Decree 82 1992

³¹ National Oil Spill Detection and Regulation Agency Act 2006

³² Public health act (1917)

³³ National Environmental (permitting and licensing system) Regulations, S.I. No. 29 of 2009

³⁴ Anambra State Environmental Sanitation law (1985)

³⁵ Lagos State Environmental sanitation law (2000)

³⁶ Abuja Environmental Protection Board (solid waste control regulation (2005)

³⁷ Rivers State Environmental Sanitation Edict (2004)

³⁸ African Charter on human and people’s rights procedure Act (Article 24) adopted in June 1981 but came into force in 1986

³⁹ Basel convention on Hazardous wastes adopted in 1989, entered into force in 1991

⁴⁰ Bamako convention on the Ban on the import into Africa and transboundary movement of hazardous waste (1991) came into force 1998).

⁴¹ J Lesson, *Environmental Law*, Pitman publishing co. Great Britain (1995)

⁴² Available at <http://www.euronews.com/2019/06/24/recycled-waste-create-unique-music>

⁴³ <https://allafrica.com/stories/2014/06061005/html>

⁴⁴ E. Fisher, *Environmental Law ‘ A Very Short Introduction* (oxford university press 2017) pg. 30.

8. The Role of Environmental Court

‘The judiciary has a role in interpreting, explanation and enforcement of laws and regulations. Increasingly, it is being recognized that a court with special expertise in environmental matters is best placed to play this role in the achievement of ecologically sustainable development’.⁴⁵ Access to environmental justice is important in order to mitigate environmental degradation. This can only be achieved if the ‘environmental protection pillar’ is strengthened⁴⁶. Environmental courts and tribunal facilitate and faster environmental matters. Environmental judges are versed in environmental science, which is the foundation of environmental legislations and also have a sound understanding of environmental law. The aim of these judges is to enforce environmental law. Providing access to justice is a fundamental duty of every country which is an obligation under customary international law. In Nigeria, some environmental sanitation tribunals set up by states do not solely focus on environmental protection issues. Most of these tribunals are more interested in prosecuting the vulnerable like the erring trader who has illegally displaced wares on walkways, or caught outside their abode during environmental sanitation days. These so called violators are made to pay exorbitant fines. While others are actually ensuring that perpetrators are brought to book or given restitutive option of cleaning up the wastes and returning the environment to its status quo, Environmental courts should constitute environmental specialists but this is not the case. Judges are handed various categories of cases ranging from environmental to civil matters files upon which they have to adjudicate.

9. Conclusion and Recommendations

To effectively tackle the menace of waste, environmental laws and regulations have to be treated with high regard, in addition with the co-operation and will power of the citizens. Since the citizens work, play and travel in the environment, each has a personal stake in its beauty, health and permanence⁴⁷. Consistency should be seen on the part of the Judiciary in enforcing penalties for violators and the Government should adopt efficient waste disposal systems. According to Siolpakaza (World Bank Urban Development Specialist), uncollected waste and poorly disposed waste have significant health and environmental impact. The cost of addressing these impacts is many times higher than the cost of developing and operating simple adequate waste management systems. Since 2000, the World Bank has committed over \$4.7 billion to more than 340 solid waste management programs in countries across the globe.⁴⁸The Federal Republic of Nigeria, National Policy on Municipal and Agricultural Waste (MAW) Management⁴⁹ is a policy covering generation and sorting, storage, collection, treatment and disposal of organic pollutants. ‘Intended to apply to’ all persons who generate, handle, dispose, store, transport, ship, municipal and agricultural waste. This policy was created by the United Nations Development Program, Global Environmental facility and the Nigerian government in (2012).

States are enjoined to domesticate these policies and apply suggested strategies for proper waste management. Governments primary responsibility is towards the citizen to ensure they are protected, this include protection from providing a clean and healthy environment for the citizens as provided for in section 20 of the 1999 constitution. Finally, proper handling of wastes is very important as it is not only harming human health and the local environment, it is also adding to climate change⁵⁰. In the light of the following, there is need to ensure the following:

1. Monitoring and evaluation network on household and industrial waste disposal methods.
2. Development and implementation of waste information systems.
3. Integrated waste management across all states and the country.

⁴⁵Preston, Benefits of Judicial specialize in environmental law: The land and Environmental court of new south Wales as a case study (2012) in 29 pace Environmental law review 398, // digital commons. place.edu/pe/r/vol29/iss2/2/2

⁴⁶The Johannesburg Declaration of 2002 provided that sustainable development rested on three pillars.

⁴⁷Tris Triad of Environmental concerns was described in S. Hays, *Beauty, Health and Permanence Environmental Politics in the United States*(1955) at 198.

⁴⁸Available at <http://www.worldack.org/en/news/press-release/2078>

⁴⁹E.Toborelriuage, ‘Solid waste management in Nigeria’, O- waste.com (Nov. 15, 2015) Available <http://www.d-waste.com/new>

⁵⁰N. Aliyu. ‘Solid waste management and its implication for climate change in Nigeria. *Kamla Raj Journal of Human Ecology*,’ Vol 34 2012.

4. Proper management of funds allocated towards ensuring proper waste disposal.
5. Increase in the fine and more stringent penalties on violators and enforcement of waste management laws.
6. Issuance of license to waste collectors and punitive measures against unregistered waste collectors.
7. Education and Enlightenment of the citizens about the dangers of improper waste management.
8. Provision and maintenance of high-quality waste bins in strategic locations of the various towns and cities.