

## INSTITUTIONAL FRAMEWORKS FOR MEDICAL WASTE MANAGEMENT IN NIGERIA: CHALLENGES AND PROSPECTS\*\*

### Abstract

*Medical waste otherwise referred to as Healthcare Waste (HCW) constitutes a special category of waste because they contain potentially harmful substances. The challenge of proper management medical waste has become one of critical concerns in developing countries especially Nigeria. The concept of medical waste is wide, and it includes every waste generated in the process of diagnosis, treatment of patients and other medical procedures from all the types of healthcare institutions. There are various laws for management of medical wastes in Nigeria. Some of these laws also created or mandates specific institutions for management of wastes generated from healthcare facilities. Also, Health care facilities owes patient and other people that visits their facilities duty of care, and these duties includes ensuring that wastes generated thereat are properly disposed of. A number of studies have indicated that the inappropriate handling and disposal of medical waste poses health risks to health workers who may be directly exposed and to people near health facilities, particularly children and scavengers who may become exposed to infectious wastes. This paper aimed at appraising the roles of various institutions/bodies saddled with the responsibilities of medical waste management in Nigeria, thereby assessing their effectiveness and otherwise in discharge of their duties. The challenges these institutions faced in the course of their duties are also discussed. The paper adopted doctrinal methods of data collection and in doing so, looked at relevant statutory provisions, textbooks, journal articles etc. The study found among other things that several factors including lack of fund, equipment and inadequate manpower accounts for their poor performance. It is part of recommendations of the paper that adequate fund, skilled manpower and modern medical waste management equipment be provided by government. Private waste managers/contractors be also encouraged with grants and low interest rate loan. With our recommendations on ground, the medical waste management institutions/bodies will carry out their duties optimally thereby ensuring that our environment is medical waste free.*

**Keywords:** Waste, Medical/Healthcare Waste, Medical Waste Management.

### 1. Introduction

The duty of management of waste, healthcare or medical waste and indeed other varieties of waste in Nigeria, is the responsibility of every citizen. Adequate medical waste treatment and disposal is the solution to safeguard the Nigerian environment and provide healthy, hygienic living environments for the citizens. What affects the environment ultimately will affect man. Bad environment affects the health of man. It is therefore important that all hands be on deck in the fashioning of a more effective mode of managing medical waste. There is no doubt that the volume of medical wastes generated in Nigerian health facilities is increasing, but the capacity of the authorities/ the agency (empowered) to cope with their statutory responsibilities of disposing these wastes are diminishing.<sup>1</sup> There is no argument on there exists several institutions saddled with the responsibilities of management of wastes generated in healthcare facilities in Nigeria. While some of these institutions are directly involved, others are involved indirectly due to the nature of their functions. Majority of our healthcare facilities and street corners are littered with hazardous medical waste on daily basis and no one appears to be perturbed. Poor waste management leads to bad environment, and bad environment affects the health of man.<sup>2</sup> Although the volume of medical/healthcare waste generated in healthcare facilities in Nigeria is increasing, the capacity of the agencies with statutory responsibilities of managing these wastes is diminishing.<sup>3</sup>

### 2. Meaning of Medical Waste

Just like any other concept, medical waste appears to have defied certain and comprehensive definition. This is so because majority of the author used 'waste' and various related terminologies in their definitions of healthcare/medical waste. For instance, medical waste has been defined to include all the wastes generated in the diagnosis, treatment, surgeries, autopsies, or other medical procedures from all types of healthcare institutions, including hospitals, clinics, doctors (dental and veterinary) offices, medical laboratories and

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<sup>1</sup> J. U. Achor, *Improving the living Environment in slum settlement*, (Lagos: Bedan Company Ltd, 1998) p.83

<sup>2</sup>Iguh, Ewulum &Origbakpor, 'Revisiting the Waste Management Framework in Anambra State Under the Current Dispensation', *Journal of Legal Issues, Idemili Bar Journal*, 2021 Vo. 2, p. 1

<sup>3</sup> J U Achor, *Improving the living Environment in slum settlement*, (Lagos: Bedan Company Ltd, 1998) p.83

research centres related to medical procedure.<sup>4</sup> Medical waste includes waste generated by healthcare facilities like physician's offices, hospitals, dental practices, laboratories, medical research facilities, and veterinary clinics. Medical waste has been seen to be limited to infectious, hazardous, and any other wastes that are generated from health care institutions, such as hospitals, clinics, dental offices, and medical laboratories.<sup>5</sup> Longe and Williams,<sup>6</sup> defined medical waste to mean any solid waste generated in the diagnosis, treatment, or immunization of human beings or animal, in related research, production or testing of biologicals from all types of healthcare institutions, including hospitals, clinics, doctor (dental and veterinary) offices, and medical laboratories. According to research,<sup>7</sup> healthcare waste is the total waste stream generated in healthcare facilities, including solid waste and wastewater. Section 48 of National Environmental (Healthcare Waste Control) Regulation<sup>8</sup> defined healthcare waste to mean wastes which are generated;

- a. During the diagnosis, treatment, immunization of humans, animals, in research or activities pertaining thereto or in the production or testing of biological experiments, and
- b. In medical and health institutions (dispensaries, hospitals, polyclinics and outpatient departments, dental clinics, veterinary stations, pharmacies, patent medical shops, etc.) as a result of use or contamination during diagnosing, medical treatment and prevention of diseases in humans and animals<sup>9</sup>.

The law<sup>10</sup> further defined healthcare waste generator to mean any person whose act or process produces healthcare waste and includes, but not limited to a provider of healthcare. The law defined waste management to mean the-

- a. Planning, handling, transportation, treatment, processing and disposal, including the supervision of these operations as well as the measures for protection of human health and the environment during the operation of the facilities and installations for waste disposal, and the care taken after the rumination of their operation and of its negative impact on human health and the environment, including waste handling, and
- b. Administrative and operational activities that are used in handling, packaging, treating, conditioning, reducing, recycling, reusing, storage and disposal of waste<sup>11</sup>.

From the above definitions, it appears that the common ground from the definitions is that medical wastes are substances produced or used in diagnosis, research, treatment of humans or animals in hospitals, veterinary offices or laboratories which are no longer in use or by virtue of their use lost their immediate value and therefore hazardous or are potentially hazardous if improperly managed.

### **3. Institutions and Bodies Responsible for Medical Waste Management in Nigeria**

#### **National Environmental Standards and Regulation (Enforcement) Agency**

The agency is established by virtue of Section 1 of National Environmental Standards and Regulation (Enforcement) Agency Act, 2007. The Agency has the responsibility for the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology, including coordination and liaison with relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulations, rules, policies and guidelines. The functions of the Agency are as contained in section 7 of the law<sup>12</sup>. It includes generally to enforce compliance with laws, guidelines and standards on environmental matters in Nigeria. The agency also has powers to

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<sup>4</sup>EH Nyekwere, 'Legal Assessment of the Impact of the Improper Disposal of Medical waste in Nigeria' *Nnamdi Azikiwe University Awka Journal of International Law and Jurisprudence*, 2012, vol 1, p.25.

<sup>5</sup>MS Zarook, 'Medical waste management and Control', *Journal of Environmental Studies*, January, 2012, American University of Sharjah, UEA, Vol. 3, pp. 1625 – 1628, accessed online on 6<sup>th</sup> March, 2023. See also, US Congress, Office of Technology Assessment, 'Issues in Medical Waste Management-Background Paper,' US Government Printing Office, Washington DC, 1988

<sup>6</sup> EO Longe and A Williams, 'A Preliminary Study of Medical Waste Management in Lagos Metropolis, Nigeria', *Iran Journal of Environmental Health Sciences and Engineering*, 2006, Lagos, Vol. 3, No. 2 Pp.133-139. Accessed online on 11<sup>th</sup> March, 2023.

<sup>7</sup>Gawad M A Alwabr, Ahmed S Al-Mikhlaifi, Saif A. Al-Hakimi, and Munira A Dughish 'Determination of Medical Waste Composition in Hospitals of Sana'a City, Yemen', *Journal of Applied Sciences and Environmental Management*, 2016, Yemen, Vol.20 (2) 343-347. Accessed on line at www.ajol.info on 11<sup>th</sup> March, 2023 by 2:00pm.

<sup>8</sup> 2021

<sup>9</sup> National Environmental (Sanitation and Waste Control) Regulation 2009 s. 106

<sup>10</sup>National Environmental (Healthcare Waste Control) Regulation, 2021.

<sup>11</sup>*Ibid.*, section, 48. See also National Environmental (Sanitation and Waste Control) Regulation 2009 s. 106

<sup>12</sup> National Environmental Standards and Regulation (Enforcement) Agency Act, 2007

establish mobile courts to expeditiously dispense cases of violation of environmental regulations<sup>13</sup>. The agency may establish monitoring stations or network to locate sources of atmospheric pollution and determine their actual or potential danger. The agency also has power to make regulations for the purpose of protecting public health and promotion of sound environmental sanitation<sup>14</sup>.

### **Courts/Environmental Court/Tribunals**

The courts as being discussed here will include the Federal, States and local courts created for the purposes of environmental protection. Court here includes tribunals and *ad hoc*/mobile environmental courts. Section 8, National Environmental Standards and Regulation (Enforcement) Agency Act, empowers the Agency subject to the provisions of the Constitution of the Federal Republic of Nigeria, 1999 and in relation to other relevant judicial authorities establish mobile courts to expeditiously dispense cases of violation of environmental regulations<sup>15</sup>. The agency may establish monitoring stations or network to locate sources of atmospheric pollution and determine their actual or potential danger. Section 13 of Harmful Waste (Special Criminal Provisions, Etc) Act<sup>16</sup> provides that the Federal High Court shall have exclusive jurisdiction to try the crimes specified in the Act. At the States and Local Government levels, various health/environmental courts have been created to also determine issues involving degradation of the environment. Although, practice revealed that majority of the environmental/health courts except the Federal High Court sits on *ad hoc* basis. This is so, despite the high level of environment degradation cases on record across the nation. For instance, Section 39 of Ebonyi State Environmental Protection Law<sup>17</sup> established ‘Ebonyi State Environmental Protection Court’ to determine environmental offences under this law. In Anambra State, by virtue Section 30 of the ASWAMA Law 2015, the Law established for the State a court to be known as the Environmental Sanitation Court. The court is to trial and/or determine issues relating to environment and defaulters of the law.

### **Federal Ministry of Environment**

The Federal Ministry of Environment of Nigeria was established in 1999. Its establishment was born out of the need to protect and preserve Nigerian environment and ensure effective coordination of all environmental matters.<sup>18</sup> The vision of the ministry is to be a nation that develops in harmony with the environment. The federal ministry of environment is headed by a ‘minister’ who is saddled with the responsibilities executing the policy objectives including regulations set out for health care waste management in Nigeria. The ministry of environment also has the mandates to secure a quality environment conducive for health and wellbeing of citizens, fauna and flora. Also has the duty to promote sustainable use of natural resources, promote research and development on issues that affect the environment, including maintenance of ecosystem, ecological processes and preserve biodiversity etc. The Minister has also in the course of duties made several Regulation that are geared at protecting the environment and curbing pollution related to healthcare/medical waste in Nigeria. One of such Regulations is National Environmental (Healthcare Waste Control) Regulation, 2021.

### **Federal Ministry of Health**

The Federal Ministry of Health of Nigeria is one of the Federal Ministries concerned with the formulation and implementation of policies relating to health in Nigeria. The Federal Ministry of Health is headed by the ‘Minister of Health’ who is appointed by the President. The Minister is assisted by the Permanent Secretary and other support staff. The functions of the Ministry of health include development of plans and preparation of budget for the ministry. The Ministry also monitors and evaluates programmes of government on health, projects and plan implementation. The Ministry, in addition, conducts planning and coordinates human resources for health development, and coordinates National Health Management Information System. The department of food and drugs services of the Ministry formulates national policies, guidelines and strategies on food and drugs, and ensures ethical delivery of pharmaceutical services nationwide.

### **Health Institutions**

Nigeria operates a federal system of government where each component unit operates independently to an extent with the other. There are Tertiary, Secondary and Primary health institutions in Nigeria that are established by law at various levels. There are also private health institutions. Some of these health institutions are specialized, while some are general in nature. Being that the issue of health and environment falls within the concurrent list

<sup>13</sup> Section 8, National Environmental Standards and Regulation (Enforcement) Agency Act, 2007.

<sup>14</sup> Section 25, *ibid*

<sup>15</sup> Section 8 (f), National Environmental Standards and Regulation (Enforcement) Agency Act, 2007.

<sup>16</sup> Cap. H1 LFN, 2010

<sup>17</sup> Ebonyi State Environmental Protection Law Law No. 009, 2015

<sup>18</sup> See welcome remarks by Engr. Hassan Musa, the Permanent Secretary, Federal Ministry of Environment to the Ministerial Press briefing for the environment sector by the Hon. Minister of State for Environment, held at NAF Conference Centre, Kado, Abuja 1 on 31/1/2022

both the Federal, State and Local Government have stakes at making regulation and policy on health and environment. In doing that, these the Federal, State and Local Government have established hospitals, veterinary offices, medical research/laboratory institutions where healthcare services are rendered to those in need of them. The laws in establishing these health institutions set out rules and regulations guiding their practice and activities. These institutions generate medical/health care waste on daily basis. It is the responsibility of the hospitals, research institutes, veterinary institutes etc. to manage wastes generated from their facility as waste generators. It is the responsibility of the health care institute as generator of medical waste to treat and dispose of all medical wastes generated from their facilities and in doing so, the law mandates them to manage these wastes in line with best environmental standards.

#### **States' Ministries of Health/Environment**

In some states of the federation, Ministry of Health and Environment are merged together with a commissioner in charge, while in some, they are separated. Where they are separated, it is the duty of the Ministry of Environment to enforce environmental protection laws of the state. In most cases, there is usually a department in the ministry saddled with the function of waste management/pollution control. For instance, Anambra State Waste Management Authority (ASWAMA) Law 2015 established the Anambra State Waste Management Authorities, which is an arm/department in the Ministry of Environment. The functions of the Anambra State Waste Management Authorities are as stipulated in section 6 of the law and it includes collection, processing, removal and safety disposal of domestic, hospital, commercial, institutional and industrial waste. In Lagos State, the Lagos State Waste Management Authority Law established the Lagos State Waste Management Authority which is a department under the Lagos State Ministry of Environment. In Ebonyi State, Ebonyi State Ministry of Environment headed by the Commissioner for Environment is the body responsible for enforcement and regulation of waste management in the state. The said Ministry of Environment also has some other departments that carry out specific duties all aimed at enforcing the provisions of the law.

#### **Departments of Environmental Health Services/Local Government Environmental Protection Committee**

The fourth schedule to the 1999 Constitution of Nigeria provides for the functions of the Local Government and made it as part of the functions of Local Government to; establish and maintain cemeteries, burial grounds and homes for the destitute or infirm, register births, deaths and marriages, provision and maintenance of public conveniences, sewages and refuse disposal, and provide and maintain health service. In fact, every Local Government Area or Council in Nigeria has a department in charge of environment/waste management. In Anambra State for instance, it is called Department of Environmental Health Services. These departments are headed by a Director of Environmental Health services of the Local Government. The functions are to enforce health and environmental policies of the Local Government which includes medical/healthcare waste management and environmental sanitation.

#### **Environmental/Sanitation Taskforce/Officers**

At various levels; both State and Local Government levels in Nigeria, authorities charged with waste management have created various bodies/committees or taskforce for the enforcement of its laws and policies. Under the Ebonyi State there is the Compliance Monitoring Team (CMT) established as a task force to ensure compliance to the law.<sup>19</sup> The Compliance Monitoring Team is empowered to with or without warrant, require the production for examination any copies of any licence, permits, certificates or other documents required under this law or any regulations made thereunder; and may require the production for examination of any appliance, devices, or other items used in relation to the provisions of this law or any regulation made thereunder. The monitoring team can also arrest any person who they have reason(s) to believe has committed an offence under the law. In Anambra State Waste Management Authority Law 2015, there the "Public Sanitation Department" of the Agency acts which act as the police of the Authority in carrying out their functions, conduct searches, makes arrest, serve abatement, demand and or other notices on defaulters. Again, recently, the Anambra re is the State Government through the Ministry of Environment also established and set up the Operation Clean and Healthy Anambra (OCHA Brigade). The OCHA Brigade is a task force established via bill passed by the Anambra State House of Assembly. The OCHA Brigade was established with the responsibilities of ensuring and enforcement of environmental cleanliness in all parts of Anambra State in collaboration with the State Ministry of Health and Environment. In Imo State, there is the Environmental Transformation Committee is the task force that monitor the enforcement of waste management. In Enugu State, there is a special task force in the Enugu State Waste Management Authority that also help in the enforcement of Enugu State Waste Management Authority Act. Generally, the duties of these task force or special environment committee are similar. Thus, these task force and committees serve as an institution for medical waste management in their respective jurisdiction.

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<sup>19</sup> Section 27, Ebonyi State Environmental Protection Law 2015.

### The Legislature

The legislature is an arm of government that is saddled with the responsibilities of making laws for either the Federal, States or Local Government in Nigeria. Section 4 of the 1999 Constitution of Federal Republic of Nigeria provides for the legislative power of the Federal Republic of Nigeria which shall be vested in the National Assembly which shall consist of the Senate and House of Representatives.<sup>20</sup> In carrying out their constitutional duties, the various State Houses of Assembly made several Waste/Environmental Sanitation and Protection Laws. At the Local Government level, the Local Government Legislative Council also makes laws. As noted earlier, the Local Government also have stakes in matters relating to waste and environmental protection. Aside the law making functions of the Legislature, they also undertake what is in popular parlance referred to as ‘oversight functions’. This oversight functions are aimed at assessing the level of compliance with laws, policies and programmes of government. There are also other bodies such as Medical and Dental Practitioners Council of Nigeria, Veterinary Council of Nigeria, NAFDAC, National Orientation Agency etc.

### 4. Challenges Faced by Institutions in Enforcement of Medical/Healthcare Waste Regulations in Nigeria.

There have been concerted efforts by government, individuals and even private sector all geared at ensuring clean environment devoid of wastes and its appurtenances. However, most of these efforts are being thwarted by some factors. In fact, it has been observed that the institutions saddled with the responsibilities of managing medical/healthcare waste in Nigeria are faced with myriads of problem. Some of the challenges are as follows;

#### Inadequate Waste Management Skills/ Sanitation Staff/Fund

The responsibility of enforcing the provisions of National Environmental (Healthcare Waste Control) Regulation, 2021 vest on the National Environmental Standards and Regulations Enforcement Agency under the supervision of the Federal Ministry of Environment. There are also other bodies both at the State and Local Government levels saddled with the responsibility of medical waste management in Nigeria. Observation revealed that these bodies lack adequate technical skills required for management of medical wastes in the present dispensation. That can be seen from the poor management of waste dumps located in various street corners of the country. For instance, the practice of waste treatments, incineration, pulverization, micro waving etc. are lacking in the in the medical sector. Even where wastes treatment plants are available, it does not last long before it breaks down. One of the basic obstacles faced by the bodies in charge of medical waste management is inadequate staff/manpower to adequately carry out the responsibilities of inspection, evacuation, assessment, prosecution of offenders etc. The result is that the functions of medical waste management are carried out only to the ability of the few staff available. At the end, the major aspect of the duties of the enforcement bodies is left unattended to.

#### Judicial Attitude

As noted in the earlier part of this work, one of the challenges faced today enforcement of environmental legislation in Nigeria is poor attitudes of the courts. The courts here include the conventional courts, tribunals and environmental protection courts. Observation revealed that our courts appear to be more interested in observing the letters of the law than ensuring that the intendments of the law is fulfilled. Generally, the mischief which these laws intend to cure are the flagrant and indiscriminate disposal of medical wastes and environment pollution and degradation. In *Osagiede v Dr. Gharoro, University of Benin Teaching Hospital Management Board and Dr. S. A. Ejide*,<sup>21</sup> the Plaintiff alleged that the Defendants in carrying out an operation on the Plaintiff left in his stomach used broken needle which caused her severe pain., thus suffered damages. The court however dismissed the case on a technical ground that the plaintiff did not prove her case as claim was mathematically inconsistent with her claim of *res ipsa loquitur*. For instance, in the case of *Allar Iron v. Shell BP*,<sup>22</sup> a Warri High Court Judge refused to grant an injunction in favor of the plaintiff whose land had been polluted by the defendant, because of the fact that according to the court, defendant’s activities were of vital economic importance to the Nigerian economy and to restrain them would result to economic ruin or loss for the country. In *Faith Okafor v Attorney General of Lagos State & Anor*,<sup>23</sup> *Asiegbu v Anambra State Government & Ors*<sup>24</sup> the courts declared restriction on movements during monthly environmental sanitation illegal. Tumai<sup>25</sup> noted that courts have not been proactive in interpretation of our environmental laws due to over reliance on legalism.

<sup>20</sup> S 4(1), 1999 Constitution of Federal Republic of Nigeria as Amended.

<sup>21</sup> (2006) 25 NSQR 712

<sup>22</sup> Unreported suit no. W/89/71 at Warri High Court, 26<sup>th</sup> of November, 1973

<sup>23</sup> (Unreported) Appeal No. CA/1106/2014, delivered by the Court of Appeal Lagos Division On 4<sup>th</sup> November, 2016

<sup>24</sup> (Unreported Suit No. A/MISC 310/2017) delivered on 13/3/2018 by High Court of Anambra State, Awka.

<sup>25</sup> M Tumai, ‘Strengthening Locus Standi in Public Interest in Environmental Litigation: Has leadership Moved from the United States to South Africa?’ (2010) 6(2) Law, Environment and Development Journal 165. See also, P.K. Oniemola and E O Olowonmi, ‘Applicant of Doctrine of Locus Standi in Proceedings for Judicial Review in Nigeria, the Gambia and Canada’, (2014) 17(1), The Nigerian Law Journal, 133.

### **Defences in Environmental Laws**

Section 1 (2) of the Harmful Waste (Special Criminal Provisions etc) Act of 1988 provides that ‘any person who without lawful authority; carries, deposits or cause to be carried, deposited or dumped, or is in possession for the purpose of carrying, depositing or dumping, any harmful waste on any land or in any territorial waters or contagious zone or exclusive economic zone of Nigeria or its inland waterways; or transport or cause to be transported or is in possession for the purpose of transporting any harmful waste; or imports or causes to be imported or negotiates for the purpose of importing any harmful waste; or sells, offers for sale, buys or otherwise deals in any harmful waste, shall be guilty of a crime under this decree’.<sup>26</sup>

### **Corruption**

Just as is obtainable in any other sector, sanitation staff often engage in taking/soliciting bribe from environmental offenders in order to shield them from prosecution or punishment. A clear example is where a person is apprehended by enforcement agent while dumping of medical waste/refuse in unapproved site, the common practice is that offenders ‘settle’ the officers by way of bribe or the officers informing you that once you settle them, the offence will not go further or to court. Also, prosecutor in the Courts/Environmental Protection Court prefer bribe-induced out of court settlement of criminal offences under the law. The implication is that once the offender settles the prosecutor, even without abating the offending act, the charges are withdrawn from court. Also, operators of waste generators bribes sanitation officers in most instances so as to prevent them from coming for inspection.

### **Sanctions**

It is quite disheartening that despite the devastating effects of improperly managed medical wastes to mankind and the environment, the penalties stipulated for various environmental offences in our laws are ridiculously low. The presence of these low penalty provisions in our laws rather fuels the muse of defaulters. The offender would simply elect to pay the meager fine or serve the terms of imprisonment than abate the offending act.

### **Urban Planning**

Urban planning is a veritable tool in waste management. Where there is poor town or physical planning, the challenges of waste management abound. In most part of the country, there are no proper physical planning resulting in erection of health facilities, residential buildings, industrial sites and office buildings indiscriminately. As a result, there is the difficulty in collection, disposing or managements of all sorts of wastes generated from these facilities. Worst still, there are bad streets ring-roads which makes some roads inaccessible to waste disposal vans. At the end, some of the waste dumps are abandoned without evacuation for long periods of time. The result is breeding of disease vectors and pollution.

### **Waste Dump/Disposal Sites**

Closely related to urban planning is the issue of waste dump/disposal sites. As is the practice, medical facilities are expected to provide waste dumps/bins where waste generated in their facilities are collected for disposal. At an interval, or when the waste bin is filled up, the waste bin is emptied into waste vans and taken to a final disposal site. But observation revealed that some health care facilities do not have proper waste dump/bins within their facility.

### **Importation of Fairly Used/Expired Equipment**

This is one of the major problems that militate against proper medical waste management in Nigeria today. These products are wastes in their respective countries of importation. The ugly part is that they are hardly exported to any other country after use in Nigeria. At the end of the day, these “wastes” ends up in our environment, causing a lot of problems. The Federal Government is urged to place embargo on purchase or importation of used hospital equipment including expired pharmaceuticals in Nigeria. This can be achieved with solid collaboration with the Nigerian Custom Service.

### **Economic Consideration**

As noted, while discussing poor judicial attitude as a problem to waste management, the researcher noted that the court in *Allan Iron v. Shell BP*,<sup>27</sup> where a Warri High Court Judge refused to grant an injunction in favor of the plaintiff whose land had been polluted by the defendant was because of the fact that the defendant’s activities were of vital economic importance to the Nigerian economy and to restrain them would result to economic ruin or loss for the country. Also, more often than not, the ministry after considering the financial loss

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<sup>26</sup> Harmful Waste (Special Criminal Provisions etc) Act of 1988 Cap. H1 LFN 2010.

<sup>27</sup> Unreported suit no. W/89/71 at Warri High Court, 26<sup>th</sup> of November, 1973

that may be occasioned to the state if for instance a revenue generating medical facility or medical waste treatment facility is sealed up until they abate a particular nuisance, will rather allow the nuisance to continue than loose revenue.

### 5. Conclusion and Recommendations

The issue of medical waste management and general environmental protection is very crucial to development. Although there were efforts by government on the protection of the environment *vis-a-vis* management of healthcare wastes in Nigeria, including the establishment of National Environmental Standards and Regulation (Enforcement) Agency saddled with role of enforcement of the National Environmental (Healthcare Waste Control) Regulation, 2021 and other policies, however the obvious fact is that our health facility healthcare wastes are still not properly managed, resulting to increase in pollution and waste related infectious disease. That explains the observation of an environmental activist; Olukanni<sup>28</sup> in his article that,<sup>29</sup> despite achievements of the past, the present times can testify to the fact that environmental issues have since fallen off our radar. Generally, this paper found that the institutional frameworks for medical waste management in Nigeria are not living up to their responsibilities. Further observation showed that some factors are militating against them in the discharge of their roles.

It is recommended that government at all level should embark on training and retraining of sanitation staff including operators of medical waste management facilities. The Ministry of Environment at both State and Federal level should employ/engage the services of more experts with requisite medical waste management skills and also procure modern medical waste management equipment. In addition, government should provide adequate fund/budgetary allocation for procurement/maintenance of modern medical waste disposal/processing equipment in Nigeria. The National Environmental Standard Regulation and Enforcement Agency Act, 2007 be amended to provide for a body to specifically enforce the provisions of National Environmental (Healthcare Waste Control) Regulation 2021. This will ensure speed and thorough monitoring of the activities of medical wastes generators and treatment facilities. National Environmental Standard Regulation and Enforcement Agency has enormous tasks in environmental protection in Nigeria generally. These responsibilities are obviously too much task for the agency. The sanctions/penalties for offenders under the National Environmental (Healthcare Waste Control) Regulation 2021 are obviously ridiculous and very low considering the devastating effects of improper or poor medical waste management. As a result, offenders would prefer to pay the fines than abet the nuisance constituted by their actions. Our courts should also be made to understand the need to be more flexible in environmental issues/protection and avoid undue adherence to legalism in determining cases of environmental pollution especially as it pertains to healthcare waste in Nigeria. Proper and effective physical urban and regional planning should be made and enforced by the authorities. With this, portions of lands will be made available as dumpsite or treatment facilities of medical wastes. The government should collaborate with other relevant authorities to out rightly ban or regulate importation of non-recyclable medical substances and equipment into Nigeria. In addition, embargo should be placed on importation of fairly used or expired medical product or equipment into the country. Medical/waste management laws be harmonized and amended to reduce or limit the excessively wide and numerous defences, available to offenders by the law. Facilities generating medical wastes should not only be made to pay extra charges for generating prospective pollutants, but must conduct Environmental Impact Assessment as required by law before setting up such facilities. The polluter pay principle introduced by the National Environmental (Healthcare Wastes Control) Regulation, 2021 be strictly implemented and enforced. The tax relief be granted to private medical waste recycling plants and companies as well as financial aids in form of grants and low interest rate loan facilities to individual aspiring to set up medical wastes recycling plants in Nigeria. It is the belief of this paper that if the recommendations are followed, Nigeria health sector/waste management institutions will bounce back and improve in their roles of management of medical wastes, and by implication set the country on the path of clean, healthy and sound environment where life will not be harsh, nasty and brutish.

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<sup>28</sup> A. Olukanni was the Vice Chairman of environmental NGO, Fight Against Desert Encroachment (FADE) in honorary capacity and current Director-General of the Nigerian Association of Chambers of Commerce, Industry, Mines and Agriculture.

<sup>29</sup> A Olukanni, 'Bringing Back Environmental Issues to Centre Stage', published in *Daily Sun Newspaper*, Thursday, 27 June, 2019) p.35.