

PROBLEMS OF DOMESTIC WASTE MANAGEMENT IN NIGERIA: ANY REPRESSORS?*

1. Introduction

The generation and disposal of waste is an intrinsic part of any developing or industrial society. Waste, both from domestic and commercial sources has grown significantly in Nigeria over the past decade. Every time a householder shops at the store, and open market he contributes to the mountain of waste. It is possible to quote figures which show that the production of waste amounts to millions of tons. The percent of Nigeria's population living in cities and urban areas has more than doubled in the last 15 years.¹ The cities and urban areas experience continuous growth which contributes to enormous in generation of solid and liquid waste.

The management of waste is a matter of national and international concern. The volume of waste does not actually constitute the problem but the ability or inability of governments, individuals and waste disposal firms to keep up with the task of managing waste and the environment. There is no doubt that a dirty environment affects the standard of living, aesthetic sensibilities, health of the people and thus the quality of their lives.² The corollary is that improper disposal or storage of this waste can constitute hazards to the society through the pollution of air, land and especially water.³ In this paper, our attention would be focused on domestic waste. We will highlight some of the problems which have attended the management of this category of waste in Nigeria today. It will be seen that Nigeria has not done well in the direction of tackling the menace of domestic waste. This is even in the face advanced management strategies existing today for domestic waste management which have been adopted in many places. We will proffer suggestions that may assist in addressing this issue that seems to be aborting most efforts of International organizations, the federal government, city authorities, states and professionals alike.

2. What is Domestic Waste?

Generally, various legislations in several jurisdictions have attempted to describe, define and delimit what waste is.

Waste has been defined as something that is not or no longer useful and is to be thrown away or disposed of.⁴ Again it has been defined as any material lacking direct value to the producer and so must be disposed of.⁵

In the *European Community, Waste Management Licensing Regulations 1999* came into force to implement the *Framework Directive on Waste*⁶. The Regulations also

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1 Jimoh I.A, "Anew Approach to Municipal Waste Management in Nigeria," International Conference on Energy, Environment and Disasters- INCEED 2005, Charlotte N.C, USA- July 24-30, 2005 He says that the around growth rate is about 2.7-3 percent.

2 Mowoe K.M, Quality of life and Environmental Pollution and Protection in Omotola J.A (ed.), Environmental Law in Nigeria, Faculty of law, University of Lagos, 1990, 177.

3 Mowoe uses the number of Cholera cases reported in Government hospitals in Oyo state in 1988 to buttress this point.

4 Oxford Advanced Learner's Dictionary, 4th Ed.

5 The production of waste material is known as the Waste stream: Ita M., Waste – is the Developing World Ready, Science in Africa, (2000). <http://www.aciencinafrica.co.za/index.htm>.

6 EC Directive 91/156. See Malcolm R, A guide to Environmental Law, London, sweet & Maxwell, 1994, vii.

implement all of the remaining section of part II of the UK *Environmental Protection Act, 1990*⁷ which defined waste as

- a. any substance which constitutes a scrap material or an effluent or other unwanted surplus substance from the application of any process.
- b. any substance or article which requires to be disposed of as being broken, worn-out, contaminated or otherwise spoiled⁸

The circular⁹ accompanying the Regulations provides detailed guidance as to the interpretation of the meaning of waste. Generally waste is considered to be something which poses a significantly different threat to human health or environment, partly because of the manner in which it may be disposed of and partly because the holder no longer has the same sense of obligation in relation to it. Waste therefore, is something which falls out of the normal commercial circle or utility. The Circular suggests four broad categories which may be considered – deciding the question whether an object is a waste:

- a. Worn but functioning substances or objects which are still usable (albeit, after repair) for the purpose for which they were made are not to be considered waste.
- b. Substances or objects which can be put to immediate use otherwise than by a specialized waste recovery operation or undertaking are likewise not to be considered waste.
- c. Degenerated substances or objects which can be put to use only by establishments or undertaking specializing.
- d. Substances which the holder does not want and which he has to pay to be taken away are waste, where the holder intends that the objects are to be discarded.

The above are only suggestive and would actually be meaningless except to rating authorities or waste disposal agencies who are interested in their fees for collection and disposal of waste. The *Federal Environmental Protection Agency Act of 1988*¹⁰ did not define waste. Only some state statutes attempt to do so. For example, *section 32* of the Lagos State Environmental Sanitation Edict¹¹ has a definition similar to the UK Environmental Protection Act 1990¹², as follows:

- a. Waste of all descriptions
- b. Any substance which constitutes a scrap material, an effluent or other unwanted surplus substance arising from the application of any process.

Waste is usually classified according to (a) its source (b) its harmful effect on humans and the environment. (c) The control which are appropriate to deal with it.¹³

With regards to the source classification, it either comes out of the shop (market) or office – commercial waste or, out of the factory- industrial waste, or out of the home – household or domestic waste.

Domestic waste includes that from domestic premises, caravan sites residential homes, educational establishments (schools) and nursing homes (and probably hospitals).¹⁴ It can be organic or non-organic. Organic waste can decay. Waste food

7 Hereinafter, EPA.

8 s. 75 EPA, 1990.

9 Circular 11/94. (D.O.E); see Malcolm R, note 6 above.

10 Cap F10, Laws of the Federation of Nigeria, 2004.

11 No 12 of 1985, see also

12 Atsegbua L.A, et al, *Environmental Law in Nigeria, Theory and Practice*, Lagos, Ababa, 2003, 102-103.

13 Malcolm R. Op. cit, 197

14 Illegbune T.O, "Legal Regulation of Industrial Waste Management" in Ajomo M.A, Omobolaji A. (eds.) *Selected Essays in Environmental Law and Sustainable Development*, Lagos, NIALS, 1994, 88.

from the household can be composted and returned to the soil. Domestic waste such as tin cans and plastic and bottles is inorganic and cannot be treated in the same way. Domestic waste can pollute the environment and be indirectly dangerous to humans. It can enter the atmosphere or water supplies causing damage to plants and animals. Some items of domestic waste may in themselves be harmless; e.g. packaging waste is not poisonous if touched and does not enter the atmosphere or water supply. Yet the sight is unattractive and may in time produce nauseating and rancid odour and may attract rats if it contains food waste thus constituting a hazard to human health. Some may acquire dangerous properties; such items may react with other substances, thus becoming dangerous. Domestic waste may be corrosive, that is, it may eat away and destroy solid materials. These distinctions are important in determining the management strategies which are appropriate to deal with it.

3. Domestic Waste Management – The Problems in Nigeria

Waste management simply means the collection, keeping, treatment and disposal of waste in such a way as to render then harmless to human and animal life, the ecology and environment generally.¹⁵ It could also be said to be the organized and systematic dumping and channeling of waste through or into landfills or pathways to ensure that they are disposed of with attention to acceptable public health and environmental safeguard. Proper waste management will result in the abatement or total elimination of pollution.

Domestic Waste Management has becomes an area of major concern in Nigeria today. It appears to be a losing battle against the harmful consequences of unguided waste and the attainment of a clean healthy environment for all Nigerians. It is common sight in Nigeria today to see heaps / accumulation of festering waste dumps in our urban and commercial cities. All sides of residential apartments, the drains, the highways, corners of major or and minor streets, undeveloped plots of land have all become waste dumps for many households. As one writer puts it, waste increases in a geometrical progression and collection and disposal is at an arithmetical progression.¹⁶

It does not appear to be a problem of absence of legislative framework for domestic waste management.¹⁷ Other factors have been identified as being responsible for penetrating the crises experienced in the management of domestic waste in Nigeria.¹⁸

3.1 Lack of Adequate Funding and Excessive Population:

Waste management is by nature both capital and economic intensive. This requires huge capital outlay. Many state governments spend a good percentage of their funds on domestic waste management. For examples Lagos State Government spends between 20 – 25% of its funds on waste management. But what this amount could accomplish is dwarfed by the population it caters for. Lagos state, for instance, has a projected population of 12-18 million persons. It is estimated that the average individual in such mega cities as Lagos generates an average of 0.115kg of waste daily. It is that the funds available or at least earmarked for domestic waste management is grossly inadequate, to fund the public agencies and other private sector participants (PSP)

15 see Atsegbua et al, Op. cit p. 104

16 Akinwale A, "Waste Management in Nigeria Local Governments", International Conference on Energy, Environment and Disasters- INCEED2005, Charlotte, N.C, USA- July 24-30, 2005.

17 See Atsegbua et al, op.cit, p.104

18 <http://www.unesco.org/csi//publica.htm>

involved in collection and disposal of domestic waste; to fund the procurement of equipment and materials required for effective domestic waste disposal.

3.2 Lack of Trained / Professional Waste Managers.

There are just a few sanitation and environment Engineers in Nigeria. In fact most private sector operators in waste management are mainly party stalwarts; know little or nothing about waste management.

3.3 Lack of Effective Monitoring and Control

The Waste regime in the UK provides a quintessence of a system that makes for effective monitoring of domestic waste prior to disposal and the steps to be taken on disposal. The regime distinguishes between controlled and special waste.¹⁹ Under *section. 30* of the EPA, 1990, waste authorities in charge of waste administration have three basic functions: regulation, collection and disposal. Waste disposal authorities are to award waste disposal contracts through competitive tendering and are to make contracts with waste disposal contractors who may be private sector companies or companies set up by the local authority which must be at arms length from the waste authority. The Waste regulation authority is responsible for issuing a waste management licence.

Under the regime, controlled waste may not be deposited, treated, kept or disposed of without a licence. The licensing method issued as a means of controlling waste. *Section 33(1)(a)* of the EPA provides that it is an offence to “treat, keep or dispose of controlled waste in a manner likely to cause pollution of the environment or harm to human health”²⁰ The offence is notable for its breadth. “Pollution of the environment” is defined in *section 29* to mean the release or escape of the waste into any medium so as to cause harm to man or any other living organisms supported by the environment. “Harm” is further defined to mean “harm to the health of living organisms or other interference with the ecological systems of which they form part and in the case of man includes offence to any of his sense or harm to his property”. Thus the offensive smell of a waste tip would be covered, as presumably would its unattractive appearance.²¹ The offence can be committed whether or not the offender has a licence. So the offence focuses on environmental protection, not with enforcing the licensing regime. The penalties are quite prohibitive.²²

Again the duty of care principle under the EPA, designed to satisfy the European ideology on the environment that the polluter pays is an important form of liability on producers of domestic waste. The producer is responsible for the proper disposal of the waste. This means that the producer must ensure it is transferred to a responsible carrier. The producer cannot escape liability simply by passing the waste onto anyone else who could include the fly-tipper.²³

This unbroken chain of waste transmission ensures that indiscriminate dumping and disposal is eliminated. The waste management regime in Nigeria is far from what is described above, so that the house-holder- producer of domestic waste is not deterred

19 Most items of domestic waste are controlled waste i.e. they can easily be managed, treated and disposed of.

20 Three defences are provided for the commission of this offence: due diligence, emergency, and acting on employer’s instructions; see Malcolm R, op.cit, 203.

21 And we may add, the deposit of waste by householders in the neighbourhood on unoccupied/undeveloped land of another, for it constitutes harm to property.

22 Six months and /or a fine up to €20000 in the Magistrates’ courts, two years and /or an unlimited fine in the crown court.

23 Malcolm R, op. cit 204-205

by any form of sanctions, because mostly, waste management agencies or contractors hardly exist in many places in Nigeria nor is monitoring and monitoring authorities effective.

3.4 Peculiarity of the Nigerians' Attitude:

The "government-does-everything" philosophy of many Nigerians contributes to the domestic waste management problems in Nigeria. A careless attitude permeates the thinking especially, those living in cities and towns. Self-help methods of domestic waste disposal are available and could be explored by individuals and institutions. Domestic incineration, landfill system is practicable, but most Nigerian's would take to the easy way of depositing waste along the highway and corners of street for "government" to pick up. Some have founded this attitude on illiteracy but this would be a fallacy. Traditionally, as is still apparent in some of our villages, where a good number of individuals is still illiterate, residents are very conscious of the importance of having a clean environment and this is evidenced by the sanitation arrangements in force in these societies.²⁴

3.5 Lack of Modern Technology / lethargy in Implementing Efficient Waste Management Methods:

Different efficient ways of domestic waste management have been in use in many developed countries.

Recycling Waste is one of the commonest ways of managing waste in developed countries. It involves the production of a useful material from waste garbage almost always has enough value to justify recycling parts of it. There are essential features of recycling which some consider as disadvantages.²⁵ The fact is that to produce of a useful material out of the waste uses up another useful material. Any process involving recycling will have this effect. To turn mouldy old food into fertilizer, nitrogen is required. When old newspapers are recycled, they require a lot of energy. This does not however, always have to be the case. Again, the total waste collected, the waste stream, needs to be sorted into constituent parts.²⁶

The concept of recycling has acquired a moral tone and governments across Europe have succumbed to the political pressure by introducing policies on recycling which require progressively more materials to be dealt with in this way.²⁷ In fact the use of this system is encouraged. Financial instruments are used to used to encourage recycling and this is supported by environmentalists. In UK for instance, in keeping with the philosophy of introducing market forces into environmental regulation a system of financial credits was introduced by *section 52* of the EPA. It involves the waste disposal authority (the body responsible for disposing of the waste), making payments to the waste collection authority (the body responsible for collecting the waste), in respect of waste which they have collected for recycling. This means that they would have less waste to take to the landfill site or to the incinerator. If a third party, e.g. a charity collects waste for recycling they are receive a payment.

24 Mowoe K.M, op. cit, 177

25 Malcolm R. Op. cit, 209.

26 Some local authorities have attempted to achieve is this by providing separate bins for different commodities. An alternative is kerbside collection in which the householder is provided with different coloured bags for different types of waste (It has worked well in Germany even though it is a more expansive alternative as collection costs are higher).

27 In the 1990's, the concept of recycling was put firmly on the agenda in the United kingdom Government's White Paper on the Environment. The White paper had set a target of 25 percent of household waste to be recycled on the year 2000: The Government had estimated that 5 percent of all household waste is recyclathe.: Note 23, above p. 210

Landfill is currently the most common method of disposing of waste in many developed countries. It accounts for the bulk of waste disposal in the UK (90 percent). At its most basic, this involves digging a hole in the ground and filling it with rubbish.²⁸ The practice usually is to bury different types of waste in the same landfill site.²⁹ Usually domestic waste is disposed of with industrial waste; the latter serves to reduce the concentrations of components leached from the former-diluting the industrial leachate. In particular domestic refuse can serve to neutralize acid wastes which arise in considerable amounts in many countries including Nigeria.

In the UK, legislation makes it possible for waste regulation authorities to grant licenses subject to conditions relating to the care of the site after it has been filled.³⁰ For many years, a well run landfill could be an inexpensive solution to garbage disposal. Some local landfill authorities have found it difficult to locate nearby landfill areas, because of political opposition from landowners concerned about lowered property prices. Some of the areas have begun tax garbage production and legally mandate source reduction to increase the lifetime of the established landfills.³¹

This definitively is not the case with Nigeria; the Land Use Regime makes it very easy for government to obtain land for this purpose.³²

The other major method of waste disposal is **incineration**. This means burning waste in an incinerator. In many areas of Japan, France, Germany, Italy and Scotland, such low value recyclable waste (mostly paper and plastics) are incinerated. The reality is that much domestic waste in these forms i.e. paper and plastics (packaging waste) is a major contributor to the waste stream and to the problem of litter. Incineration could reduce the domestic waste volume by 95%. When waste is burned, there are two consequences: gases will be emitted into the air³³ and residues in the form of ash and sludge will be left behind. United recently, disposal of this incinerator waste has been a continuing problem. In the mid-1990's successful experiments in France and Germany used electric plasma touches to melt incinerator waste into rounded glassy pebbles, valuable as concrete filler and they do not dissolve in water.

Added to the above methods of waste disposal is a new technology for domestic waste collection called **Pneumatic Collection System for Domestic Waste**. This system conveys waste without the need for trucks driving through towns and is operational 24 hours per day everyday of the year. The system is especially suited to the development of new urban areas and for renovation of historic centers. Pneumatic collection is a break away from conventional forms of collection in that it avoids the need to place waste on the public highway and does away with movement of trucks and all the associated nuisances.

Running entirely underground, the system contributes to protection of the environment by creating cleaner urban areas that function better and are more environmentally friendly. It is an innovative service with a simple operating principle. Users deposit their waste boxes on the streets on building landings or in the garbage disposal areas of

28 Problems arise from leaching – the process whereby liquid seeps thru the landfill and takes with it harmful chemicals from the waste; this may leave the land contaminated and can enter the groundwater supply, rivers and waterways and drinking system. Also as the waste buried rot s, it can produce methane gas which is potentially explosive and carbondioxide. This problem has been dealt by the Barrier method- lining the site with a barrier to prevent seepage. This could be natural (found from rock or clay soil) or artificial (an engineering solution such as construction of curtain wall out of appropriate materials). This could rather expansive.

29 called co-disposal method

30 Section 35, EPA.

31 <http://www.bamweb.com/articles/L/a/landfill.html>

32 Under the provisions land Use Act, Cap L, Laws of the federation 2004.

33 completion of incineration at controlled temperatures however produces little pollution.

residential building and hotels. Each box has an associated “waste value” allowing intermediate storage before transport of the bags to a central collection point. The bags are then dropped automatically into tanks where the waste is compacted. The air needed to propel the bags is provided by high-power blowers and the system is entirely controlled from a computerized cock pit.

Access to the drop boxes is available at any time, everyday of the year and without restriction. Pneumatic collection has many economic advantages: designed to last for 50 years, the installation and operating costs are optimized by a high level of automation and energy -efficient processes.³⁴

There is legislation in Nigeria that should install these technologies.³⁵ The present writer does not know of any functional incinerator, landfill systems³⁶, or recycling centers in Nigeria. In the few places where they exist such as in Lagos and Aba, they are private initiatives with their attendant commercial orientations and profit making disposition; otherwise, there is no serious maintenance culture and control formula. What meets the eyes outside cities and towns (and sometimes in the neighbourhood) are open dumps. The dumps are also “incinerators” as some form of burning is done. There is no form of sorting done to separate different kinds of domestic waste, compostable materials end up in these dumps. Many times before collection, much of compostable waste would have rotted producing noxious gas and rancid breath. Again light plastic, thin-film carrier bags are gradually blown on to lands nearby. In these places they contribute to flooding where they block drains and kill livestock that forage in the streets eating garbage filled plastic bags that remain undigested. Cash-strapped local authorities and state governments are actually battling with large heaps of nuisance waste.³⁷

Laudable provisions exist in local legislations for environmental protection. All states have Environmental sanitation laws or Edicts³⁸ which ought to enable proper disposal of domestic waste. For instance in Lagos, the Environmental Sanitation Edict³⁹ mandated every landlord or occupier of a house to keep free and clear drains, gutters, clear the street of all rubbish or refuse any sort, to provide trash cans and generally prohibited any indiscriminate disposal of refuse into such gutters and channels. An improvement on this law classified waste into domestic and commercial⁴⁰. It prohibited the burning of the commercial waste and the dumping of waste at sites other than designed ones. Two years later, the Environmental Sanitation Edict⁴¹ empowered the Waste Disposal Board to designate proper refuse disposal sites for the deposit of refuse or waste and prohibited the burning of refuse collected in garbage cans at designated sites. (The prohibition on burning was of course to forestall destructive fire outbreaks) It

34 Available at www.sita.fr. SITA, a provider of environmentally sound solutions and ROS ROCA, Spain's leader in waste management technologies and equipment partnership has made it possible for this technology to become operational in Spain.

35 Federal Environmental Protection Act, Cap F10, LFN, 2004 makes provisions for procedures that should be adopted by industries required to establish and install these technologies primarily for managing toxic waste produced by their operations

36 Individuals and householders in certain cities in their compounds, of course not to burn waste but used as a dump. Many times this gets filled and spills over. Some, because of the rancid breath that oozes out of the dump make some effort to burn the waste.

37 ITA, M. “Waste-Is the “developing world ready”/science in Africa, 2000, <http://www.scienceinafrica.co.za/index.htm>.

38 FEPA which has a federal application dwells more industrial toxic waste. Virtually no provisions exist towards management of domestic waste.

39 No. 19 of 1978

40 Environmental Sanitation law, No. 7 of 1983

41 No 12 of 1985

also authorized the board to register interested persons as private collectors. Jurisdiction to try offences under these edicts is vested customary courts.⁴²

The provisions are many times honoured in the breach and there is no serious enforcement machinery. Domestic waste, sometimes human excreta are usually emptied into gutters. Where the Board provides waste bins at all, they are almost always not cleared, spilling their contents on to the streets. When cleared, it is transported in open vehicles though residential and busy commercial areas, with the wind helping to blow it in all directions. This often results in waste dispersal and not disposal. Disposal sometimes consists merely in shifting the refuse from one part of town to another without any plans for its management.⁴³ The obvious conclusion is that Nigeria is far from having solved its domestic waste management problems.

4. Conclusion: Any Repressions?

Much of the efforts at domestic waste management are by state governments and local authorities. These may be direct (as in some states) or through government – private sector partnership or wholly through privatized schemes. This paper has identified some of the limitations of these arrangements. A couple of NGO's have sprung up in recent times identifying these problems and attempting to solve them. Their efforts at tackling this menace have including sourcing funds from international organisations, other international non-governmental organizations, wealthy individual across the world. Sadly the corruption cankerworm, sometimes, has not allowed the funds made available to them to see the light of day. At other times, the funds are misdirected at organizing "sensitization" seminars and conferences (which end up as talk shows) instead of being utilized in practical ways. Be that as it may, much could still be done.

- Improved funding of government departments or sanitation boards responsible for domestic waste management would go a long way at assisting them to procure better and more equipment for domestic waste collection and disposal. More funds in their hands would also make for the training of their staff and better staff motivation.⁴⁴ Again better contracts with private participants would be entered into.
- The Ministries of Environment and their agencies, local authorities should strengthen their training programme for the managerial staff generally and inspectorate/monitoring staff particularly, taking them to task to their job. This would enhance effective monitoring and control of waste from collection to disposal.
- The European ideology that the producer of waste should pay if introduced may reorientate Nigerians' attitude towards their environment. Environmental tax or levy on households who use the bins provided at collection points/centres would give them the legal basis and moral conscience to raise a clamour when waste disposal boards/agents do not do their job.
- Competitive tendering for waste collection and disposal contracts would ensure that the technically qualified contractors and committed contractors are taken on.

42 In some states there are sanitation courts to try offenders; unfortunately they are only functional on days "designated" as "environmental days" when every person is mandated to spend hours cleaning his surroundings.

43 Aigbokhavbo V.O.O. Waste Management in Nigeria; A comparative Analysis in Atsegbua L.A(ed) Selected Essay in Petroleum and Environmental Laws, Benin City, New Era, 2000, 12-13.

44 Today the staff of the boards, departments and the private contractors who actually do the field work are older persons recruited more or less from the villages into the cities. Young city drivellers choose to remain idle rather than take on such "dirty" jobs with its peanut pay.

The present dispensation is that the private-sector- participants on hand are political cronies of those in power to compensate them for their efforts during election campaigns. Thusly, there is no sense of commitment or responsibility in the execution of these contracts.

- Sanitation/Environment protection courts should be established to try all environmental pollution cases as obtainable in other jurisdictions. This would require serious policing in the neighborhood but would go a long way reduce or eliminate indiscriminate dumping of refuse by householders.