

SOLID WASTE MANAGEMENT OF OMI-ADIO, IBADAN, OYO STATE, NIGERIA

O. S. OLANIYAN, J. A. IGE & D. A. AKEREDOLU

Department of Civil Engineering, Ladoke Akintola University of Technology, P. M. B,
Ogbomoso, Oyo State, Nigeria

ABSTRACT

Solid waste consists of materials that are generated by humans and animals activities that are not of any use. It exists in different forms and as well causes serious environmental problem arising from poor solid waste management. The study examined the solid waste management at Omi-Adio, Iddo local government, Ibadan, Oyo state. Familiarization with the area was best done before collection of data, by systematic random sampling and as well as direct collection of information on the field through oral interviews and use of questionnaires. The weight of different classes of waste generated in the area for three month was measured, with the month of October having the highest value of 8443.8kg, December with the value of 8211.8kg and September with the least weight of 7749kg. Gabbages existed more throughout the study as well as rubbish. Agricultural waste, ashes, health waste and waste from demolition construction existed at a very minimal rate. There was no existence of waste from industries and dead bodies. It is concluded that the method of waste management in Omi-Adiio is very defective and it is very injurious to the health of human. It is recommended that there is need to educate people to dispose waste properly by following the government bodies.

KEYWORDS: Environmental, Solid Waste, Waste Management, Random Sampling

INTRODUCTION

Solid waste consists of all materials that are generated by humans and animals activities, usually solid or semi- solid in nature which are no longer being a value, that is, the material concern is no longer useful or wanted. The materials is either disposed off or recycled as appropriate. Solid waste includes the following: Residence waste such as food wastes from kitchen, commercial waste such as office waste, municipal waste, construction waste, industrial wastes and special waste such as explosive and radioactive materials, securely waste such as negotiable paper (odd currency notes), agricultural waste, institutional wastes and hospital waste.

Solid waste management reduces environmental problem in the cities and towns. It addresses the problem of indiscriminate dumping of waste in the environment which has remained a concern to many communities. Poor solid-waste management system portends serious environmental crisis in most towns and cities. Therefore, it is necessary to estimate the amount and determine the composition of the mismanaged solid waste in the environment.

Solid wastes management and its attending problems in the city of Ibadan had received some attention from the authorities concerned, but the problem continues to be beyond control due to the massive increase in population caused by migration of people from the rural area to urban area. Omi-Adio area is under the jurisdiction of Iddo Local Government in Ibadan, Oyo state. The system adopted to manage the waste in the area is open dump method.

LITERATURE REVIEW

The urban management of solid waste relates to the total strategy for the collection and removal of waste from the environment. For total success, the strategy involves the cooperation of a number of institutions starting with the producer of these wastes through the agencies responsible for collection and disposal. The primary producers of solid wastes are notably the house hold and the industries. Both of this represents the first level of organization in the process of collecting, processing and disposal of solid waste.

Oyediran (1997) notes that the visible feature of most urban centres in Nigeria today is the refuse 'mountains', which emit foul odours, as well as a breeding ground for pathogenic agents. Ogbalu (2003) observes that solid-waste management problem in Onitsha has become very serious. According to him, this informed various conferences organized by the United Nations Environmental Programme (UNEP) in Nigeria, which were geared towards controlling the effects of environmental pollution arising from poor solid waste management system. He observes that the need to tackle the poor environmental condition in Onitsha underlines the call by the United Nations on all the member nations to devise effective waste management strategies.

The role of health education in refuse management in Nigeria cities has been emphasized by some researchers. Ogbalu (2003) emphasizes the need for health education on proper management and recycling of solid-waste in Nigeria. He observes that a number of health hazards in Nigeria such as dysentery, typhoid, cholera, etc have been associated with poor solid waste management in Nigeria cities. Policy makers should be encouraged by health education in order to expose the dangers of improper disposal of solid waste that is rampant in our cities.

Ubani (2003) notes that in almost cities and rural areas in Nigeria, the menace of solid waste have posed great environmental problems due to the inability of the solid waste management agencies to carry out their responsibility. This is evidenced by the indiscriminate disposal of refuse on the streets, drainages and water bodies in most Nigeria cities. He observes that despite the government involvement in solid waste management, there has been no remarkable improvement. It is clear that if the household were to play its role more efficiently, some positive steps would have to be taking in the matters of storage facilities (Oladejo, 2011). Solid waste management relies on the cooperation of many including numerous household and industries for ultimate effectiveness and efficiency.

METHODOLOGY

An inventory of the area was carried out to familiarize with the area, its terrain, mode of wastes collection and disposal methods. The data used for the study were collected within the period of three months by systemic random sampling and direct collection of information on the field with the use of questionnaires. Amount of domestic wastes generated were estimated and the composition of the wastes were determined.

During the process of reconnaissance survey the existing conditions of how each refuse dump is being managed was noticed. Personal interview with the residents was being made on how refuse is being stored, collected, transported, managed and the various agencies involved in its management so as to know the impact of mismanaged solid waste to the environment.

RESULTS AND DISCUSSIONS

During the study, the estimated weight of waste generated are been shown in Figure 1. The rubbish and garbage are found to have the greatest percentage of weight with 36% and 45% respectively during the month and this has made foul and offensive odour to emanate from the dump site. Waste from ashes, agriculture and health/medical are found to have existed at a very minimal rate and there was no occurrence of waste from demolition construction, industrial and dead bodies. There was a slight difference in the weight of waste gotten during each month. The source of waste generated mostly comes from domestic activities.

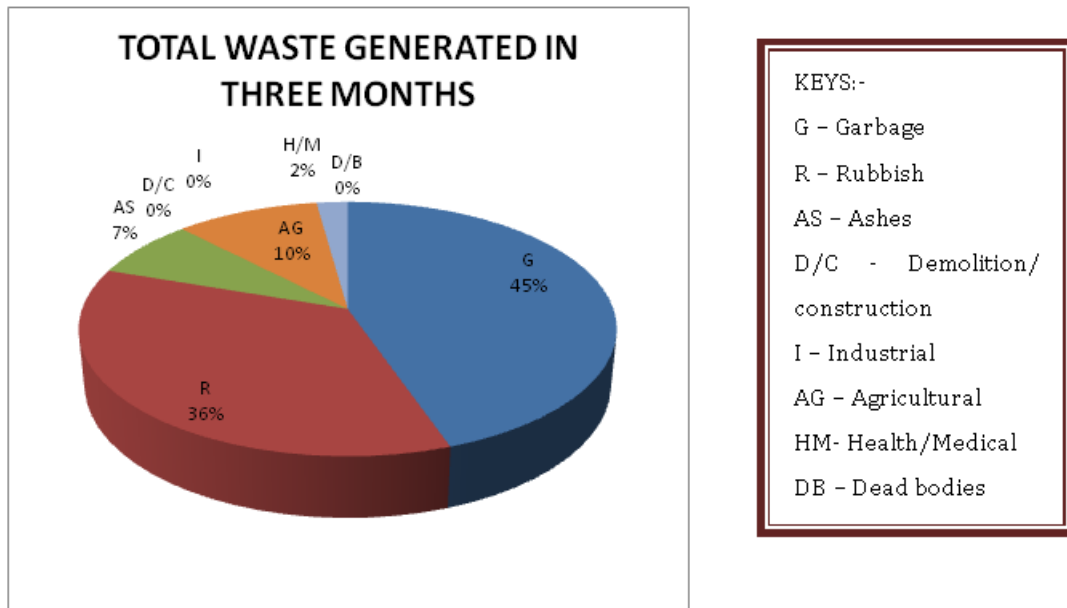


Figure 1: Pie-Chart Showing Average Weight of Waste Generated

Furthermore, the total weight of the waste during the study is shown on table 1 indicating that more waste was been generated during the month of October followed by November and the least from September. The average weight generated was been calculated from the table from the gotten on the table.

Table 1: Showing Total Weight of Waste Generated in the Area for Each Month Measured in Kg

Different Classes of Waste	September	October	November
G	3742.3	3792.8	3743.5
R	2980.6	3194.5	2897.1
AS	629.0	500.3	496.5
D/C	0	14.3	19.5
I	0	0	0
AG	843.6	791.5	932.0
H/M	182.5	150.4	123.2
D/B	0	0	0
Total	7749	8443.8	8211.8

$$\begin{aligned}
 &= \frac{\sum \text{weight of waste generated in the three months}}{3} \\
 &= \frac{7749 + 8443.8 + 8211.8}{3} \\
 &= \frac{24404}{3} \\
 &= 8134.87\text{kg.}
 \end{aligned}$$

The study show that indiscriminate dumping of refuse in the river (River-Omi) which is located in the area has been prohibited due to the incessant flooding which occurs, the most recent of which occurred in August 2011, which led to the unfortunate loss of lives and properties. Despite the effort of the government and other individuals in the society to stop the dumping of refuse in the river, it was revealed to us that some small adamant group of people still do this mostly at night in order to avoid confrontation.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are drawn from the present study.

- Indiscriminate dumping of waste (i.e. garbage, rubbish and ashes) into the river and public drain, top the categories of defect; followed by lack of or inadequate modern equipment and facilities and this process is injurious to health.
- Lack of proper management of the public dumpsites located in the area and the nature of wastes being generated in Omi-Adio in Ibadan are garbage, rubbish, ashes, demolition/construction waste, health and medical waste, dead bodies, human excreta and effluent are meant to be disposed properly.
- Lack of equipment for the evacuation of waste is hazardous to the environment. The roles of individuals and the local government authority in waste management are very inadequate.

It is recommended that individual and the municipal government to see that the methods of waste management in the area do not constitute any health hazard by providing improvised waste bins (e.g baskets, empty cartons); formed the commonest waste bin used for temporary storage of domestic wastes, followed by plastic waste bins without cover and public enlightenment programme, necessary facilities and equipment should be provided by the government to see that this method of waste management does not constitute health hazards.

REFERENCES

1. Adedibu A. A. (2005). Strategies for waste dump management- a tool for turning waste to wealth. Paper presented at national workshop on turning waste to wealth at Ilorin.
2. Adegbite A. (1997). Industrial Pollution in Lagos, Ogun and Oyo States. Unpublished seminar project paper presented at university of Lagos.

3. Adetokunbo O. Lucas and Herbe M. Gills (2001).A short Handbook of preventive medicine for the tropics.Hodder and Stoughton publishers, London.
4. Aibor, M.S. and Olorunda, J.O. (2006) A technical Handbook of Environmental Health in the 21st century for professionals and student, Akure: his mercy publisher.
5. Aigbokan A. (2007): Industrial Pollution in Lagos, Ogun and Oyo States. Unpublished Term Paper Presented at University of Lagos.
6. Atanda, I.A., Oladele, R.O. and Akinyemi, E.O (1998).Waste Management in Oyo Local Government Area, Oyo States. Unpublished Seminar Project Paper presented at University of Nigeria, Nsukka.
7. Atinmo T. (2007): Integrated use of Resources and Waste Management. Unpublished Workshop paper Presented at University of Jos.
8. Lumbre, R and Mulenkai, L (1993).Tropical Environmental Problem Clean Up the World, UNEF Press Release, Nairobi, Kenya.
9. Ogunrombi, J. A., Daligie, L. I.And Okunofu, L. A. (1990).Evaluation of the wastesupply, sewerage and solid waste Disposal in Abuja.
10. Oladejo, S. O. (2011). Organizational Characteristics for solid waste collection.
11. Omokhodion, A. (2005). Cleaning our urban squalors. Daily Times, Friday, the 24th October, 2005, P. 7, Lagos
12. Oreyomi, M.K. (2005). Principles and practices of Environmental Health, Ibadan.Bash-Moses Printing Company.
13. Wagner E.G. and Lanoix J.N. (2005); Excreta disposal for Rural Areas and small
14. Communities. World Health Organization Publication. 1stImpresson 1958, Geneva Switzerland.

