

## Assessment of Solid Waste Management in Sabo, Ibadan North Local Government Area of Oyo State, Nigeria

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### Abstract

There is complexity in the problem associated with the management of solid wastes in today's society. Solid waste management is the most pressing environmental challenge faced by urban and rural areas of Nigeria, and despite a lot of policies and regulations, the management of the solid waste is assuming alarming proportions with each passing day. This study reviews current solid waste generation and management in Sabo Area of Mokola, Ibadan North Local Government of Oyo State. It was revealed that that the inhabitant of the area generate paper, nylon, wood, dust, cloth, metal scraps, electronic gadgets, bottles, food remnants and vegetables among others. Open burning of waste and dropping of waste along the road median is the most common waste disposal practice in the study. Improper disposal of municipal solid waste can create unsanitary conditions and these conditions in turn can lead to pollution of the environment and the outbreak of vector borne diseases. Government should provide enough skin bins and proper allocation should be ensured. Waste collection frequency should also be increased in the study area as waste generation is on the high side.

**Keyword:** Solid wastes, Ibadan North Local Government, Waste Generation, Waste Collection.

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### I. Introduction

The environment is very crucial to the existence of every creature, just as it serves as a place of abode to any creature; it also contributes to a large extent to the quality of life of such creature (Oreyomi, 2005). There is a popular saying that a clean city is a healthy city, which implies that the health status of a community can be assessed from its cleanliness which is a function of proper management of waste in the environment. Waste management is at its lowest ebb in most towns and communities in Nigeria; most parts of the city centers do not benefit from public waste disposal services and therefore have to bury or burn their waste or dispose it haphazardly (Fafioye and John-Dewole, 2013). Arimieari *et al.*, (2014) reported that in developing countries like Nigeria, open dumping of solid wastes on the roadways, drains and borrow pits is a prevalent form of disposal. The practice usually resulted in littering of highways and drains. This become an eyesore and serve as a breeding ground for flies, rats and mosquitoes which are major carriers of diseases. Other effects of improper solid waste management have been reported such as river channels, sewers and gutters blockage, overall effect of which resulted in flood events (Sangodoyin, 1993). Also, some of these wastes which are dumped indiscriminately are hazardous in nature and Arimieari *et al.* (2014) reported that major health problems result from hazardous wastes and improper management and disposal of hazardous waste components have caused an increasing amount of health problems. The effects of which is deleterious to both human life and environment.

Solid waste management has been part of human activities right from time and several efforts are being made by government at all levels- federal, state and local in managing the collection and disposal of waste generated. In the time past Oyo State government made an effort in waste collection by providing skip bin at strategic place across the major city. However, despite the provision made by government, an emerging trend is the dumping of refuse along the median of some major and collector roads in the city. The lackadaisical act of median dumping of refuse has left the road divide stinking with odours from decayed sediments and waste materials which have been left for a long period of time. Thus, city corridors are now breeding places for rodents, insects and diseases and inadequate distribution of refuse bin makes it impossible to establish the reason behind the indiscriminate disposal of refuse along the road divide (Popoola *et al.*, 2016)

In order to prevent health hazards that can occur as a result of inappropriate waste disposal, it is therefore imperative to carry out this study to assess the level of solid waste management in Sabo area of Ibadan North local government and present the methods that are mostly adopted in the region.

## **II. Materials and method**

### **2.1 Description of the study area**

Sabo is a Hausa community in Mokola, Ibadan North Local Government Area of Oyo State Nigeria. It is a residential area mostly inhabited by the middle-class families. Mokola lies close to the University of Ibadan, Dugbe and Bodija. Sabo is predominantly a home for small, medium, and large-scale commercial activities carried out by Hausas and also serves as the center for some commercial organization headquarters, such as bureau de change.

### **2.2 Methodology**

Administration of questionnaires and personal observations were employed in the course of this study. The research was designed to survey households on methods of solid waste disposal and how these wastes generated in houses were managed. The data required for the study were collected from primary sources, that is, the information was gotten from residents of Sabo area, Mokola, Ibadan, and the households and shops were selected randomly within the study area. One hundred questionnaires were equally administered in the area. Each of the household questionnaires comprises of nineteen (19) questions. The questions were related to the socio-economic characteristics of respondents, gender, marital status, educational status, age, monthly income, occupation and housing type of the respondent.

Several methods are used to analyze research data such as percentage frequency, correlation, cross-tabulations, tables and charts through SPSS tools. For the purpose of this study, SPSS 21.0 version was used to analyze the data at 5% significant level.

## **III. Result And Discussion**

### **3.1 Socio Economic Characteristic of the Respondent**

The majority of the respondents are male (88.3%) while female respondents were just 11.7% with majority falling within the age range of 20-50 years. Furthermore, the result shown that more than half of the respondent were married (56.4%) and 39.4% are single, the result also reveals that majority of the respondent has household size of 2-4 occupants. According to (Ezeah, 2010) the level of education has influence on the way people manage waste in order to protect them from outbreak of diseases, in terms of education the result showed that 23.4% of the respondents have no formal education, 16.0% had primary education and majority of the population with 50.0% had secondary education while 7.4% had OND/NCE (National Diploma or National Certificate in Education). Assessment of occupation showed that majority of the respondents are traders and artisans (48.9 and 44.7% respectively). The monthly income of the respondent was also verified, the percentage of people earning less than 7,000 is 48.9%, while those earning between 7000-30,000 is 29.8% and those earn between 31,000- 100,000 is 18.1%. This is in line with the result in earlier study by Faniran, (2012) that the level of income may determine how and the kind of waste management system that will be adopted in an area. Majority of the people in the study area live in a room and parlor apartment and Abel, (2009) stated that the kind of house and household determined the volume of waste generation and how the waste will be managed.

### **3.2 Solid Waste Generation in Sabo**

Sources of solid waste generation in Nigeria among others are commercial, industrial, household and agricultural. They are also categories as degradable and non-degradable. Figure 1 shows the solid waste types generated in Sabo area, Ibadan to include paper, nylon, wood, dust, cloth, metal scraps, electronic gadgets, bottles, food remnants and vegetables; saw dust, ashes, rubber, bones and plastics etc. More than 80% of the respondents generate paper and leave waste, nylon waste product, spoilt worn out clothes. These may be because most of the local food are packaged with leaves and nylon. The information on domestic waste product generated in the study area shows that 83.0% of the respondent generate food waste product, 74.5% generate vegetable wastes, 87.2% generate human remnant while 90.4% respondents say they generate ash waste product. Lastly, the result revealed that 66.0% of the respondents generate plastic waste by-product while 90.4% of the respondents generate rubber waste and 64.9% generate metallic objects while 67.0% respondents generate e-waste and 93.6% generate bottle wastes.

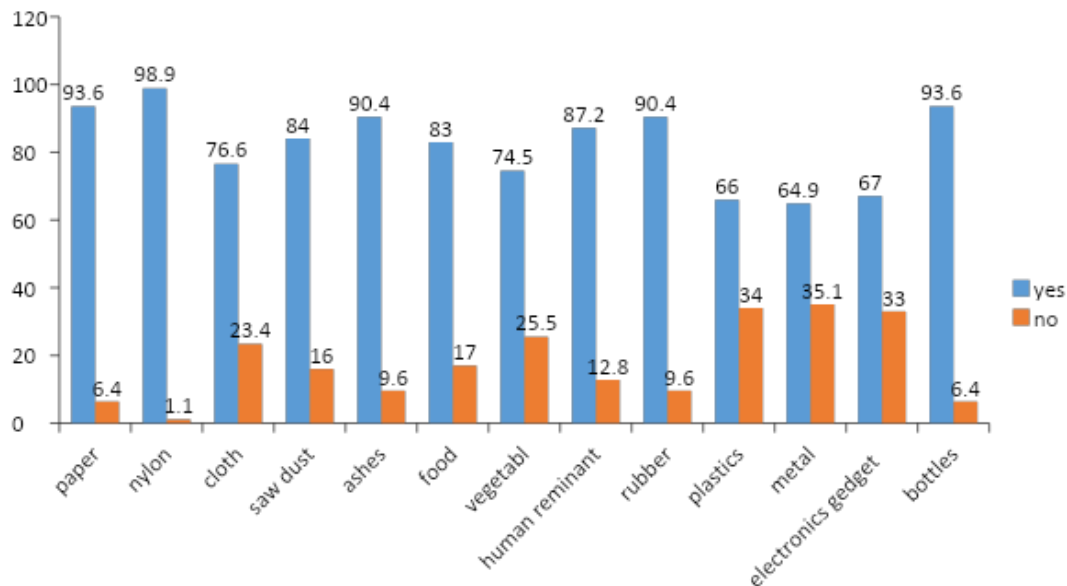


Figure 1: Types of solid waste generated in the study area

Source: Field survey, 2020

### 3.3 Waste Management Practice in the Study Area

Seven major disposal methods were identified in the study area as shown in figure 2 below. 77.7% of the respondent used burning as a disposal method while the rest of the respondents used other means of disposal, this result is in conformity to the result gotten by Igoni *et al.* (2007). Many Nigerians have considered burning a cheap way of disposing off their solid wastes by setting the mixed wastes on fire in a little corner in their backyard or in a very open place and causing serious and dangerous environmental pollution. Effect of which is deleterious to both flora and fauna and ecosystem in general. Dropping of waste by the road side and drainage receptacles were common in the study area and research has established that dropping of waste and debris in drainage cause blockage during rainfall, the resultant effect of which can lead to flood and cause loss of life and properties Agunwamba (2003). It was observed that most people in the study area dropped refuse in the river channels around the area. The relationships between educational status, age and solid waste management shows that age and education status have no influence on solid waste management in the study area as all the respondents engaged in the same manner of waste disposal notwithstanding their age and education status. This is in conformity with result gotten in earlier study in Abeokuta, Ogun State by Babayemi and Dauda, (2009). However, in their study the authors noted a relationship between gender and waste management as the percentages of those involved in open dumping, dumping in drainages and burying were higher among males.

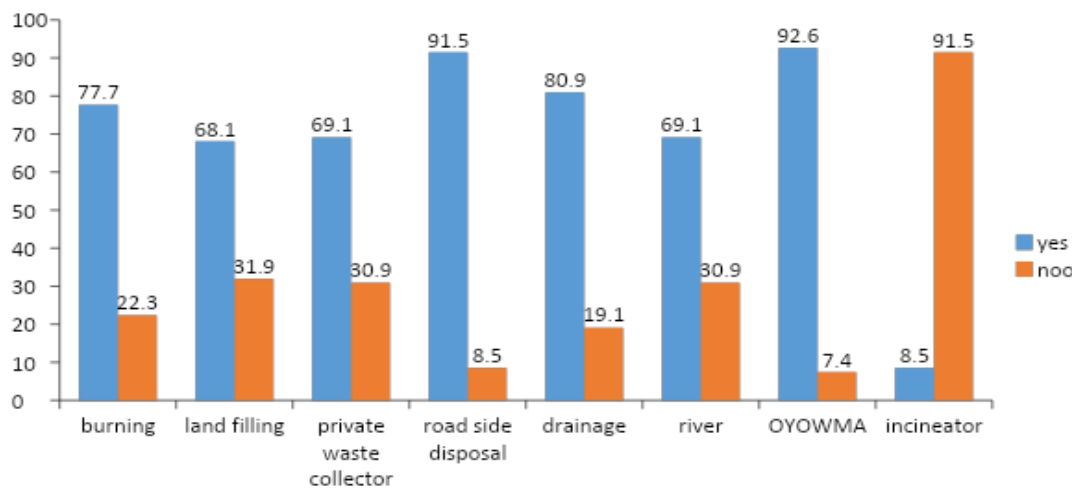


Figure 2: Waste Management Practices in the Study Area.

Source: Field survey

### **3.4 Challenges of Waste Management in the Study Area**

There are several factors affecting the solid waste generation in Nigeria such as lack of advance technology, government policy and dumping site which have the highest graded level and medium base on the findings in the study area. Most of the respondents said that cost pay for waste disposal is not their problem in the study area, also results shows that some of the occupants of the area are aware of the consequence of indiscriminate disposal of waste as illiteracy is not among the problems facing them in the study area. Afon (2007) stated that the cost paid per household size should be minimal so that they could be using the collector in an effective way. Some of the problems identified to be facing them in the study area are lack of advance technology which make some of them to engaged in indiscriminate disposal of waste, also it was deduced that government policy has impact on the disposal methods that will be adopted by the citizenry. Lack of adequate waste bin and dumpsites is another factor contributing to inappropriate waste disposal in the study area. According to Abel (2009) and Foloruso (2001) proper waste management should be put in place to avoid outbreak of disease and depletion of ozone layer which has a deleterious effect on both flora and fauna.

### **IV. Conclusion**

Despite the level of awareness of solid waste collection and management which is very high in Sabo, Ibadan North Local Government area, most of the occupants of the area still indulge in indiscriminate disposal of solid waste like open dumping, open burning, and dumping in drainages. These indiscriminate methods of disposal are practiced generally in the study area irrespective of educational status, financial status or level of exposure of the people and the adverse effect is nothing but a filthy and unsightly surrounding. Improper disposal of municipal solid waste can create unsanitary conditions and these conditions in turn can lead to pollution of the environment and the outbreak of vector borne diseases (i.e. diseases spread mostly by rodents and insects). It is therefore suggested that for proper waste management in Sabo area, government should provide skin bins and proper allocation should be ensured.

Furthermore, waste collection frequency should be increased in the study area as waste generation is on the high side. Government- private partnership should be encouraged to lessen the burden of waste management on government and community participation in environment management should be encouraged.

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