

ASSESSMENT OF SOLID WASTE DISPOSAL PRACTICES IN MOWE MARKET, OBAFEMI OWODE LOCAL GOVERNMENT OGUN STATE

Oyeleye, O. O.*1, Oyewole, O.*2, Odubaanjo, A. O.*3

*1,2,3Department Of Public And Applied Health, Babcock University, Nigeria.

ABSTRACT

Waste disposal is a component of the waste management process. It is a known fact that waste disposal practices, like (recycling, biological reprocessing, incineration, landfilling) is becoming a huge concern in a developing, fund incapacitated, resource and infrastructure poor country like Nigeria. The perception of the populace affects their attitudes and their behavioural output towards waste disposal. The purpose of the study was to assess the Solid Waste Disposal Practices in Mowe Market Ogun state. The research design that was employed for this study is cross sectional descriptive design using a self-administered questionnaire. Simple random sampling was used to select respondents to give every respondent equal chance to participate in the study. After the wastes are collected, many 27.9% confirmed that they remain in the transfer station, some 28.8% remains in the temporary storage site, while many 43.2% said that the wastes are taken to the landfill. Some 9.9% of the wastes are recycled or reuse. Some 2.3% said they are used in making compost, others 29.7% said that they are burned. Many 42.3% of the respondent said that some waste goes into the landfill while few 15.8% are buried. The respondents claim that 31.1% of the wastes takes 1 day to get to the final deposit site, some 17.6% of the respondents takes 2 days to get to the final deposit site. Majority 71.6% of the respondents thinks open burning is a choice method of solid waste disposal, while some 28.4% of the respondents do not think so. Many 63.5% of the respondents thinks waste burying is a choice method of solid waste disposal while some 36.5% of the respondents opined in the opposite, few of the respondents, 13.5% collects wastes from the dumpsite, 27% collects wastes from the point of generation while majority 59.5% collects wastes from wastes collection point. In conclusion, although the state Government has put measures in place for good disposal, the waste disposal practice within Mowe is still sub optimal, this might be due in part to inadequate financing, lack of knowledge on waste management and the lackadaisical attitudes of the market users.

Keywords: Waste Disposal, Solid Wastes, Waste Management, Recycling, Incineration.

I. INTRODUCTION

Waste disposal is a component of the waste management process. Waste management includes the collection, temporary storage transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process (United Nations, 2017). It is the process of treating solid waste and offers solutions for recycling items. It is how garbage could be used as valuable resources. It is the product and substances that had been used in a safe and efficient manner. It is the generation, prevention, characterization, monitoring, treatment, handling, reuse and residual disposition of solid waste. For the purpose of this study, we will focus only on waste disposal processes.

Refuse is the collective name for all the component of solid waste which are found in any human environment. It consists of garbage, rubbish, ashes, dust, animal droppings, dead animals among others. Solid waste can be hazardous or non-hazardous waste. It can also be biodegradable and non-biodegradable waste (Adeniran et al., 2017). Wastes are indispensable components of human life cycle, in as much as we produce and consume goods, we are bound to always generate wastes in all walks of life and in every facets of our society, therefore, there is need for proper disposal of these wastes that is in accordance to international best practices, hence they become a menace to human health and to our environment. Solid wastes among other things causes unsightliness, blockage of drainages, spoiling of roads, and places of breeding for disease vector animals if they are not properly disposed, like flies, fleas and rodents, causing Lassa fever, they can pollute surface water, especially if there are indiscriminate dumping of refuse into them and cause diseases such as typhoid, diarrhea, dysentery, etc (Adeniran et al., 2017).

Sources of solid waste varies, it could be from residential/domestic, institutional, commercial, industrial, agricultural, electronic company and healthcare wastes. For the purpose of this study, we focus on market wastes, Market solid wastes are also a kind of municipal wastes. Various types of wastes are generated from

market especially food wastes, paper, cardboard, plastics, textiles, rubber, leather, wood, glass, ferrous metals etc. When proper disposal process is lacking, these are hazardous for surrounding environment and also liable for climate change (Ebna, Rokon, Sayed, Salma, Arifur & Tanisa, 2013). The following factors has contributed to the increase rate of waste generation in our modern day life, they are; industrialization, increase population, change in lifestyle, socioeconomic development, technology advancement and the rate of consumption of goods. Sadly, these developments have not been matched by adequate provision including funding and infrastructural facilities to sustainably manage this ever growing quantum of waste (Babade, 2020). Nigeria being a developing country is faced with lack of proper funding in the waste management sector which is a limiting factor for proper waste management practices.

Nigeria, having a population of 206 million (Simona, 2020), generated 0.58Kg solid waste per person per day, and in some Nigerian cities as follows: Abeokuta in Ogun state (0.60Kg/person/day), Ado-Ekiti in Ekiti state (0.71Kg/person/day), Akure in Ondo state (0.54Kg/person /day), (Babayemi & Dauda, 2009) China overtook the USA as the largest waste generator with an annual waste generation of 190 million tons in 2004 and a projected 480 million tons by 2030 (Minghua, et al., 2009). China being one of the industrialized country in the world, these statistics is expected. According to Zhang, Soon, Richards, (2010) Chinese waste generation per capita is about 0.8 to 1.0 kg/cap/d; the range of municipal solid waste generation in other cities in China i.e. (Beijing, Shanghai, Chongqing, Lhasa and Hangzhou) was reported to be generating wastes between 0.85 to 1.51 kg/cap/d. (Roland & Stefan, 2014). The generation rate was 4.9 pounds per person per day in 2018, an 8 percent increase from 2017 in the United State. In America, 220 million tons of wastes is generated in a year, this is now more than what is obtainable in any other Nation in the world. However, the government and environmental associations have developed numerous methods of dealing with the problem (Bakare, 2020).

Nigeria being a less populous, a less industrialized and a less technologically advanced Country obviously for these stated reasons generates less waste per capita as compares to China and America, but in the year 2019, research has it that the largest waste generating country worldwide per capita is Canada which had an estimated 36.1 metric tons per year, this was 10 metric tons more per capita than the United Nations. Coming home to West Africa, Ghana to be precise, the per capita waste generation in Ghana was estimated to be 0.47kg/person/day which is about 12,710 tons of waste per day per the population of 27,043,093 (Kodwo & Mensah, 2015), in the same year in Nigeria, Delta State, 1.04kg/capita/day of waste was generated (Nnaji, 2015). As of 2017, Delta state being one of the 36 states in Nigeria was 4,112,445 in population, almost 1/7 of the population of Ghana in 2015, yet had more per capital waste generation, factors such as lifestyle and industrialization and also consumption pattern may explain this trend. It might also be arguable that Nigeria being more populous than Ghana makes them generate more waste than their counterpart west Africa Country. In all these, there is need for us to get it right with our waste disposal practices, as the above research findings reviews that the quantum of wastes being generated in Nigeria is gradually escalating.

II. METHODOLOGY

Descriptive and cross-sectional Study was adopted for this research. The population of this study included residents of Mowe in Ogun State. The sample size for the study estimated using the Raosoft sample size calculator is 222 respondents. The sampling technique used in this study is simple random sampling technique. The instruments were tested for validity and reliability. A self-structured questionnaire was used in data collection for this research study. Descriptive statistics was done using SPSS statistical package version 23 to analyse the response data.

III. RESULTS AND DISCUSSION

Findings of the study is as shown in Table 1. Table 1 shows the respondents answers to questions on waste disposal practices as applicable to Mowe market.

Table 1: Showing the Determination of the Waste Disposal Mode

| Variables | Respondents in this study; N=222 | |
|---------------------------------------|----------------------------------|----------------|
| | Frequency (n) | Percentage (%) |
| After the wastes are collected | | |

| | | |
|---|-----|------|
| do they remain in the transfer station | 62 | 27.9 |
| temporary storage site | 64 | 28.8 |
| Are they taken to the landfill | 96 | 43.2 |
| What is the mode of waste disposal | | |
| Recycling/reuse | 22 | 9.9 |
| Composting | 5 | 2.3 |
| Burning | 66 | 29.7 |
| Landfill | 94 | 42.3 |
| Burial | 35 | 15.8 |
| How long does it take for the waste to get to the final disposal site after collection | | |
| 1 day | 69 | 31.1 |
| 2 days | 39 | 17.6 |
| 3-4 days | 106 | 47.7 |
| Greater than 1week | 8 | 3.6 |
| Do you think open burning is a choice method solid of waste disposal | | |
| Yes | 159 | 71.6 |
| No | 63 | 28.4 |
| Do you think waste burying is a preferred way of solid waste disposal | | |
| Yes | 141 | 63.5 |
| No | 81 | 36.5 |
| Where do you normally collect your waste | | |
| Dumpsite | 30 | 13.5 |
| point of generation of waste | 60 | 27 |
| waste collection point | 132 | 59.5 |

The study revealed that 56.8% of the wastes stays for up to 2 days before they are being collected and about 23.9% of the wastes are disposed in an open container, although about 48.2% of the wastes are disposed from an airtight plastic bag, this is in contrary to the report that it was found out that in some parts of Abeokuta open dumping were the predominant methods of disposing solid wastes and in Sango Ota area in Ogun state solid waste has been described as littering the major roads of the community (Adetola & Omonijo, 2019). The percentage that is open and exposed can constitute a form of breeding environment for disease vector organism, fleas, flies, rodents and roaches can transmit, food borne, water borne or even airborne diseases. It is therefore imperative to wash and cook thoroughly all food items purchased from the markets to prevent contraction of diseases.

42.3% of the wastes ends in landfill, apart from the fact that there is no existence of sanitary landfill for the market wastes and coupled with the fact that the wastes are not sorted out, the landfill accommodates all forms of rubbish, there could be generation of toxic gases, it can be a potential site for communal fire outbreak. In the words of (Lilliana, Ger, & William, 2013) landfilling is the cheapest and the simplest method for disposal of wastes, this assertion seem not to be true in industrialized and developed countries where a sanitary landfill is being maintained. 47.7% of the wastes stay about 3-4days before they reach the final disposal site, this reveals a suboptimal system in their waste disposal system, Although, upon enquiry, the wastes at the central collecting point are being disposed every day, it takes up to 2-3days for some wastes to get to the collecting point from the source of generation.

71.6% of the respondents thinks open burning is a choice method of waste disposal, while 63.5% of the respondents burying of wastes is okay. These opinions need re-orientation in the part of the market waste disposers. About 11.6% of the wastes are being recycled and reused, this percentage is small compare to what is possibly obtainable but otherwise commendable. 59.5% of the waste are being collected at the waste collection point, this reveals a level of organization in their waste disposal system and about 13.5% are being thrown at the dumpsite, this is an improvement when compared to the report by (David, Favor & Sunday, 2020) which states that an average of 36.6% of the people in the selected local governments dispose of their solid wastes at open dumps, although this is not a good practice but 6.1% is a minority percentage.

IV. CONCLUSION

In conclusion, although the state Government has put measures in place for good solid waste disposal, the waste disposal practice within Mowe is still sub optimal, this might be due in part to inadequate financing, lack of knowledge on waste management and the lackadaisical attitudes of the market users. The study posit that there is need for a more prompt or timely collection of wastes within the market and the use of open container should be discouraged among the traders, environmental task forces and environmental workers can be refortified by the government to enforce hygiene and cleanliness within the market environment.

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