



SOLID WASTE DISPOSAL PRACTICES AT THE KANESHIE MARKET, ACCRA, GHANA.

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Abstract

Solid waste disposal practices have been a challenge for many developing countries including Ghana. This study seeks to investigate the solid waste disposal practices at the Kaneshie Market in Accra, Ghana. In view of this, we used a mixed method approach (qualitative and quantitative design) with a total of 100 respondents made up of 50 traders, 23 drivers, 17 hawkers and 10 others were randomly selected to respond to questions on solid waste disposal practices at the Kaneshie Market. Questionnaires were prepared and administered based on the objective of the study. Three key informants also responded to our interview guide. The study conducted revealed that 41.2% of the respondents allow waste collectors to come for their waste while 35.3% dispose of their solid waste in dustbins, 17.6% indiscriminately throw waste away, while 3.9% burn the waste. We conclude that the city authorities in collaboration with the metropolitan environmental health officials need to organize sensitization exercises to educate the people who dispose of their waste indiscriminately. More so, since more people allow waste collectors to come for their waste, city authorities in collaboration with the Ministry of Sanitation of the country should prioritise waste segregation for the production of organic fertilizers in order to reduce the tonnes of refuse that are being dumped at landfill sites.

1.0 Background

Waste generation and disposal are integral parts of both developing and developed nations around the world. Waste management has been a global issue that many governments, particularly developing countries, have struggled with. Developed countries such as Germany, Italy, Japan, and the United States of America only manage 30% of their garbage. The remainder is sent or exported to poor countries such as Equatorial Guinea, Togo, Ghana, Indonesia, Sudan, and Haiti as second-hand goods such as clothing, automobiles, and electrical appliances. Every day, millions of tons of municipal solid trash are generated worldwide. As a result, world industrial economies must convene to propose sustainable waste-control solutions. The majority of rubbish created ends up in underdeveloped countries. The United States Public Health Service has identified 22 human diseases such as Cholera, Malaria, and Typhoid which are associated with inappropriate solid waste disposal (Omang et al., 2021). A healthy environment is critical for the health of a society. Solid waste management is gaining attention as it is obvious that too much garbage is lying uncollected in the streets, producing inconvenience, pollution, and posing a public health risk (Nyang'echi, 1992).

In Ghana, waste generated by low-income Accra residents is not efficiently collected. Before 1995, the Waste Management Department (WMD) collected 60% of all waste (Owusu Boadi and Kuitunen, 2002). Municipal solid waste management challenges have been compounded by rapid urbanization and population increase. Accra's population is roughly 1.7 million people, according to the 2000 Ghana National Population Census, with an annual growth rate

of 4.3 percent (UN-HABITAT, 2010). Accra's waste generation is expected to have tripled over the last two decades as a result of variables such as population growth, enhanced urbanization, and lifestyle changes. According to records, Accra generates roughly 2,000 metric tons of waste per day, however only 1,200-1,300 tons are effectively collected (Accra Metropolitan Assembly, 2009). Given future population estimations, establishing solid waste management solutions in Accra has become a highly time-sensitive subject. It is now unarguable that in order for humans to protect, control, and promote the environment, suitable solid waste management facilities must exist.

Waste management in Ghana, like in many developing nations, is a difficult issue that has been high on the priority list of successive governments, local governments, and international donors in recent years. Despite considerable efforts made to tackle the challenges of sustainable waste management in urban Ghana, trash management is a rising concern in Ghana, particularly in the market.

The Kaneshie Market, one of the busiest in Ghana's Greater Accra Region, attracts traders and passengers from all over the country. They generate a lot of solid waste as a result of their activities, but the waste management authorities appear to be unable to keep up with the waste collection in the market. As a result of this condition, waste accumulates in the market, making it unclean. Waste collection, particularly of vegetable waste, ice water sachets, plastics, and meat bones, has been a serious challenge in most Ghanaian marketplaces, particularly the Kaneshie market. The question now is, what is the solid waste disposable practices at the Kaneshie market? As a result of this, we assess the solid waste disposable practices at the Kaneshie market in Accra, Ghana.

This study will fill the research gap by creating knowledge about the solid waste disposal situation and practices at the Kaneshie Market. Thus, the study will contribute to the existing body of knowledge on solid waste management and also serve as a reference for further research on the subject in other market areas across Ghana.



Figure 1: Waste collection at Kaneshie Market.
Source: Field photography and observation, 2018

2.0 Materials and Methods

2.1 Study area

Kaneshie is a suburb in the Accra Metropolitan Assembly, of the Greater Accra Region of Ghana. The name was derived from a Ga Adangbe that is *Kane shieshie* which means “under the light”. It is located on latitude 5° 33′ 24″N 00 13° 29′ W. The Kaneshie market is one of the largest markets in Ghana and West Africa as a whole. The Kaneshie market is also a central market and a central lorry station for passengers, particularly those travelling to the Central Region and Western region, and these daily activities keep the Kaneshie market and the town in general bustling. Kaneshie township falls under the jurisdiction of the Accra Metropolitan Assembly.

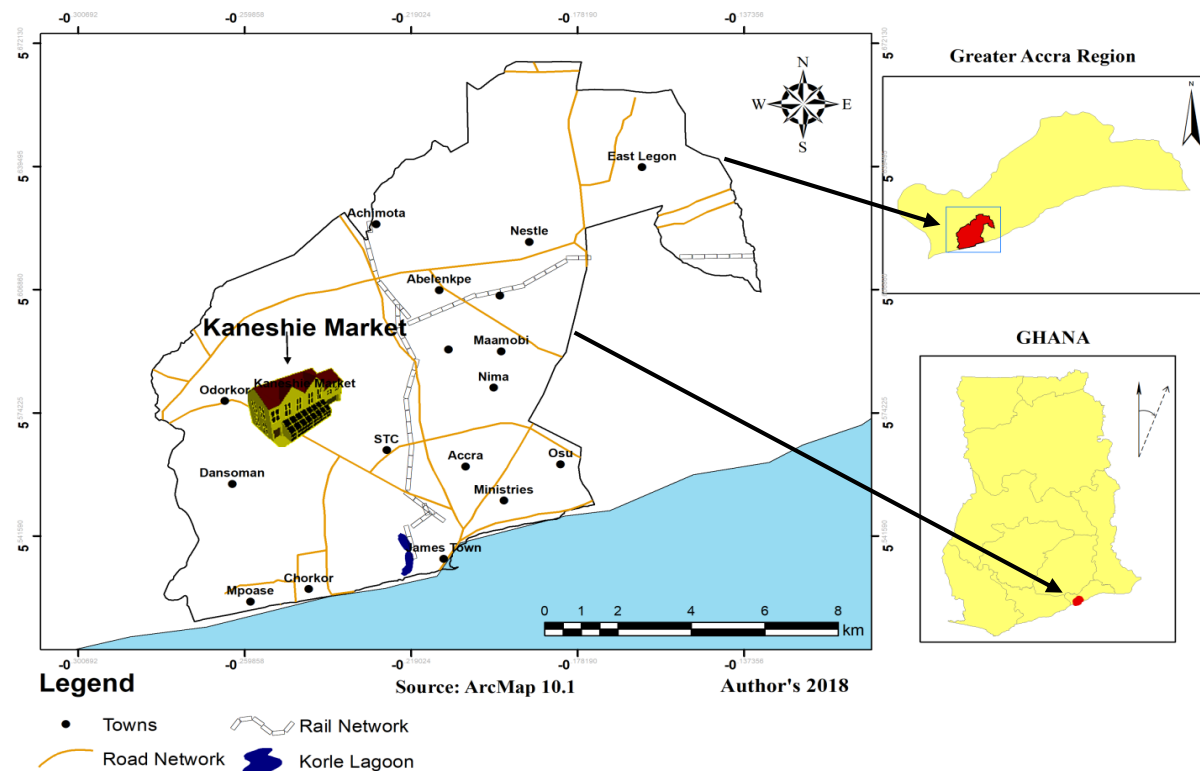


Figure 2: Geographical location of the study area
 Source: Authors’ construction, 2018

2.2 Study approach

In this study, we seek to have an in-depth knowledge of the phenomenon, therefore, we used a mixed method approach, employing both qualitative and quantitative data gathering and analysis approaches. A mixed research strategy is a research methodology that involves collecting, analyzing, and integrating quantitative and qualitative research methods in a single study (Creswell, 2003). Interviews with market women, hawkers, drivers, and passengers are part of the qualitative research approach.

2.3 population and sample size

The research population included everyone in and near Kaneshie Market Square. This comprises market women, city inhabitants, students, employees, drivers, passengers, and Kaneshie township residents. Using the simple random technique, we sampled 100 respondents

for the study and this includes those who were directly linked to inappropriate trash disposal in the Kaneshie Market area. Questionnaires were administered to 50 traders, 23 drivers, 17 hawkers, and 10 other respondents (students, cleaners, market officials, passengers, and pedestrians) (Table 1). We also used the purposive sampling technique to sample participants who can and are willing to provide information by virtue of knowledge or experience pertaining to the research topic. With respect to this study, we identified an official of the market, driver and a cleaner.

2.4 Instrument for data collection and analysis

This study made use of both primary and secondary data. To collect primary data for the study, questionnaires were distributed to respondents and relevant institutions in the field. The interview method was utilized to collect primary data relevant to the study area. The interviews were performed in both Akan and English, depending on the respondents' preference. One of the strategies utilized to acquire data for this study was observation. Secondary data was also employed to help with improved understanding and completion of the research investigation.

Table 1: Sample Distribution of Participants

Respondents	Population Size	Percentage %
Traders	50	50
Drivers	23	23
Hawkers	17	17
Others	10	10
Total	100	100

3.0 Results and discussion

3.1 Social Characteristics of Respondents

Table 2 provides a summary of the socio-economic characteristics of the respondents who participated in the survey. Based on frequency analysis, 38% of the respondents were males and 62% were females. This implies that a reasonable number of wastes managed at the household and market level are females. It has been hypothesized that women demonstrate great enthusiasm in the environmental issue than men (Hampel et al., 1996). Considering age, 11% of the respondents were in 10-19 age category while 33% were in the 20-29 age category. 27% of respondents were in 30-39 age category while 16% were in 40-49 age category. 9% of the respondents were between 50-59 years and 4% of the respondent were 60 and above.

Table 2: Demographic characteristics of the Respondents.

Sex of Respondent	Frequency	Valid %	Cumulative %
Male	38	38	38
Female	62	62	100.0
Total	100	100.0	
Age of respondent			
10 -19	11	11.0	11.0
20 -29	33	33.0	44.0
30-39	27	27.0	71.0
40 -49	16	16.0	87.0
50 -59	9	9.0	96.0
60+	4	4.0	100.0
Total	100	100.0	
Level of education			
Primary	21	21	21
JHS	32	32	53
SHS	31	31	84
Others	16	16	100
Total	100	100.0	
Occupation of Respondent			
Trade	50	50	50
Driver	23	23	73
Hawker	17	17	90
Others	10	10	100
Total	100	100.0	

Source: Field survey, 2018

Another important socio-economic characteristic was the level of education attained. 21% of the respondents had completed primary school or its equivalent, 32% had completed junior high school level. 31% of the respondents had a senior high school qualification, 16 % had other level of education. In terms of occupation 50% of the respondents were traders, 23% were drivers, and 17% were hawkers. 10% of the respondents are engaged in other occupation.

3.2 Solid waste disposable practice in Kaneshie market

When respondents were asked specifically to indicate accordingly the types of solid waste disposable practices in Kaneshie Market in the list presented to them, their response were presented in table and bar chart form. Interestingly, 41.2% of the respondents give their wastes to wastes collectors while 35.3% dispose their solid waste in dustbin,17.6% indiscriminately throw waste away, while 3.9% burn the wastes. Though a higher number of respondents indicated that waste collectors come for their garbage, it seems the unhealthy practices of

depositing garbage in drains is common in Ghanaian markets (Asomani-Boateng, 2016).

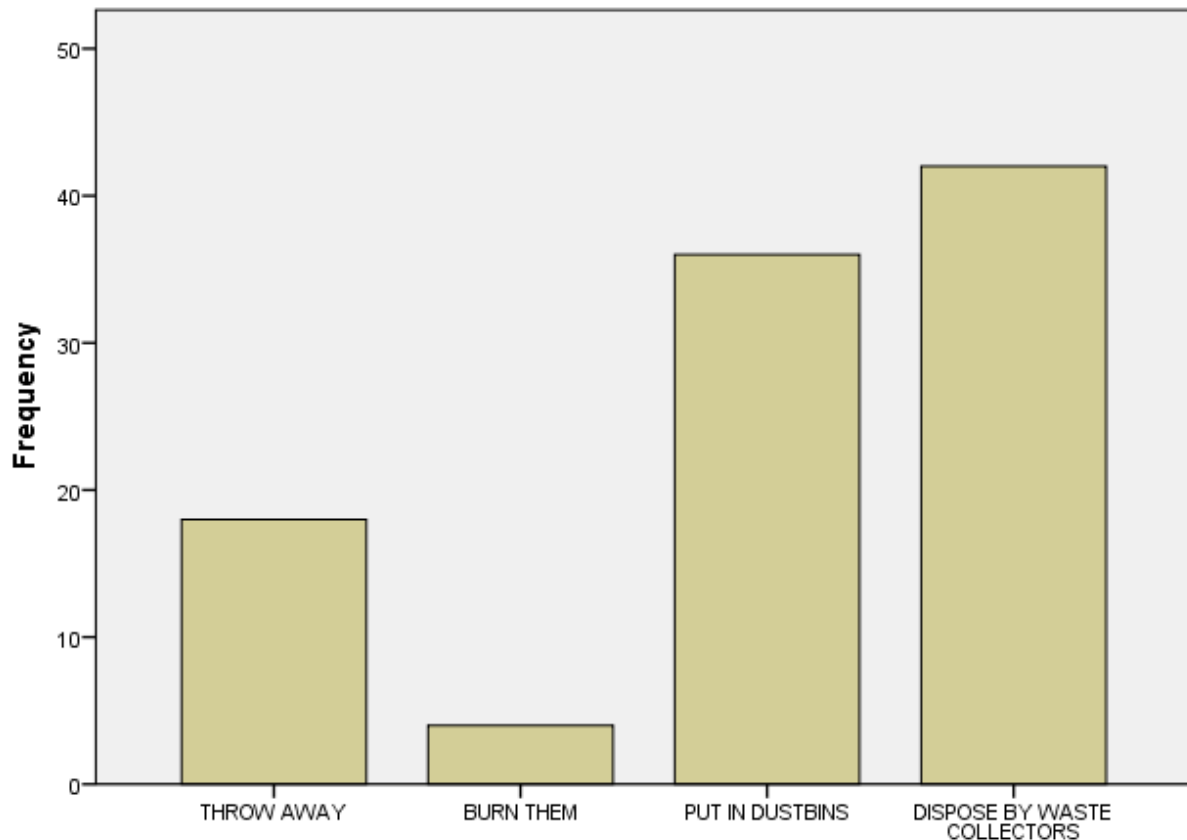


Figure 3: How solid waste is disposed in Kaneshie market
Source: Field Survey, 2018

In a narration by one official managing the Kaneshie market, this is what she had to say about waste disposable practices:

We have a refuse container just close to the market where the traders, drivers and hawkers dump their waste. One challenge is that we do not have enough skip or refuse containers. We are working with the city officials to help procure more skip or refuse containers [An official managing the Kaneshie market].

This explains that the officials managing the Kaneshie market and the city authorities are aware of the inadequate refuse containers at the market and due to the tonnes of waste generated each day, the refuse overflow the skip containers.

It was also discovered that the commercial drivers, upon reaching the market empty their waste materials at the market premises. They do this knowing that the cleaners will definitely clear all waste materials at the market premises. A cleaner had this to say on this:

The commercial drivers make our work difficult for us. It would be nice if they collect all waste materials in their vehicles into a polythene bag and dump it in the skip container but they rather sweep all the waste to the ground once they get to the market premises, thinking we will come and collect them [A cleaner working at the Kaneshie market]

A comment from a driver indicates that some drivers adhere to the sanitation by-laws and therefore make sure all waste generated in their vehicles are dumped in the skip container. The driver had this to say:

As for me, I make sure I collect all waste materials in my vehicle and dump them in the skip container close to the market. Some drivers also do same but I will be happy if the city authorities can start punishing the other drivers who want to make the market premises filthy by enforcing the sanitation by-laws [A commercial driver]

There is a clear indication that if sanitation by-laws are enforced and more skip containers are provided, sanitation issues will be minimised in the Kaneshie market. This is because the result from our quantitative data shows that a lot of people dump their waste in the skip or refuse container which is later carried away by waste collectors or companies. As discovered by a study, the provision of more refuse containers and regular collection of waste by waste collectors or companies will help overcome sanitation issues in a market (Taiwo and Ajayi, 2013)

Table 3: How waste is disposed at Kaneshie Market

	Frequency	Valid %	Cumulative %
Throw away	18	17.6	19.6
Burn them	4	3.9	23.5
Put in dustbins	36	35.3	58.8
Dispose by waste collectors	42	41.2	100.0
Total	100	100.00	

Source: Field survey, 2018

Again, the respondents were asked to tick the type of waste they produce, 73% of the respondents produce plastic, 18.2% produce paper waste while 8.8% produce organic waste. It seems the production of plastic waste in African local markets is on the increase as it has been discovered that plastic waste tops the types of waste generated in another local market in a different jurisdiction in Africa (Nyampundu et al., 2020). Again, majority of respondents said they dispose of their waste daily representing 87.3%, 9.2% disposed of their waste weekly while 4.5% disposed of their waste twice a month. A higher number of traders or respondents who dispose of their garbage every day is due to the enforcement of sanitation by-laws by the local authorities (Mansour and Esseku, 2017). With respect to where they dispose their waste, majority of the respondents said they dispose of their waste at a dumping site in front of the market while few respondents dispose of it in a dustbin. The research conducted indicated that 94.8% do not have refuse containers to store their waste, while 5.2% said they have refuse containers. This may be due to inadequate skip or refuse containers provided by the local authority.

Conclusion

The study found that solid waste disposal practices among respondents can be considered as good, since a larger number (41.2%) of the respondents give their wastes to wastes collectors. However, there should be room for improvement especially for the rest (17.6%) who throw

their waste away indiscriminately. In addition the city authorities in collaboration with the metropolitan environmental health officials need to organize sensitization exercise to educate the people who dispose of their waste indiscriminately. More so, since more people allow waste collectors to come for their waste, city authorities in collaboration with the Ministry of Sanitation of the country should prioritise waste segregation for the production of organic fertilizers in order to reduce the tonnes of refuse that are being dumped at landfill sites.

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