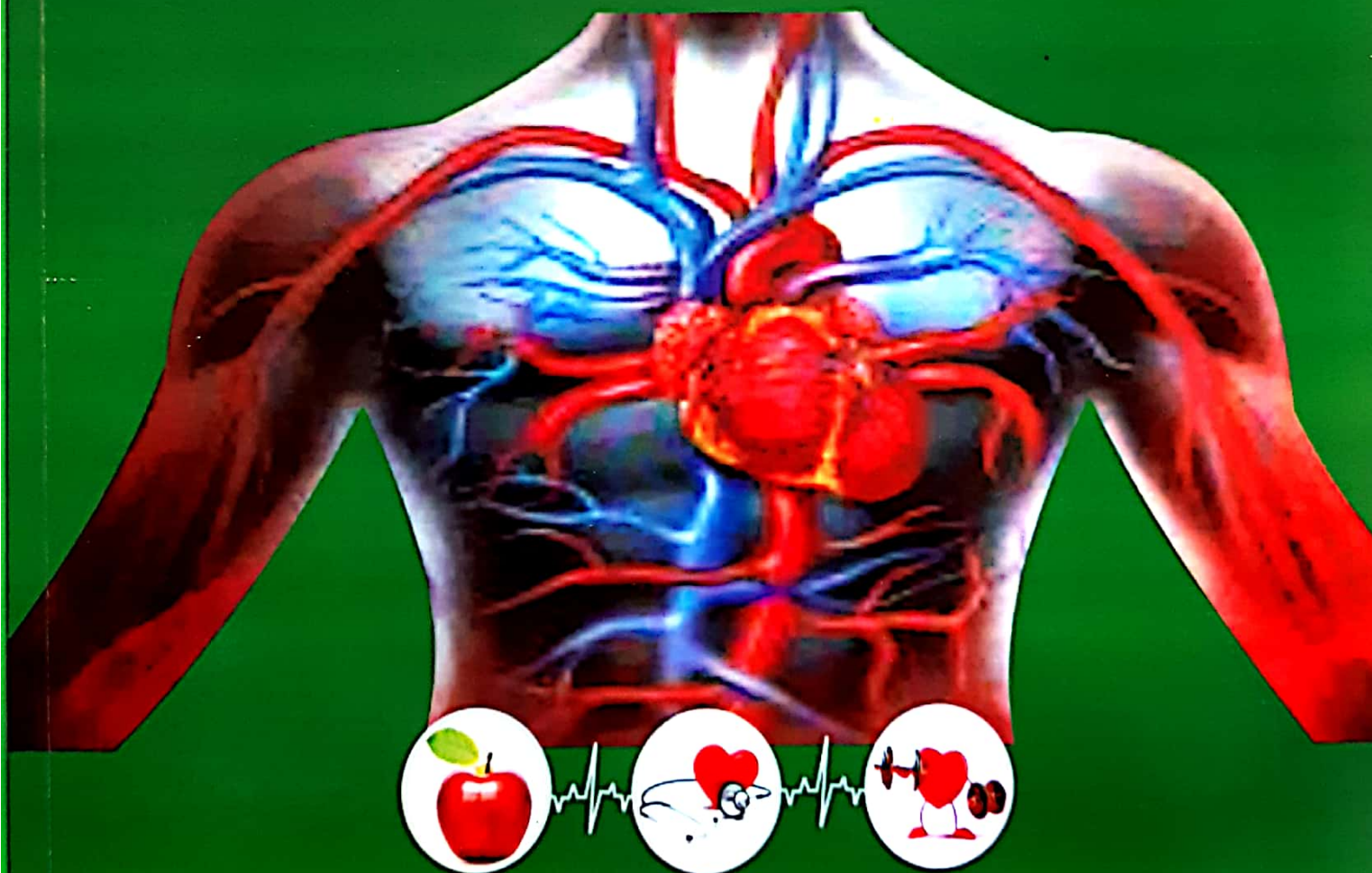




**GJHRR**



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## WASTE MANAGERS' PERCEIVED STRATEGIES TO CURTAIL INDISCRIMINATE DISPOSAL OF WASTE AMONG TRADERS IN KWARA STATE

Abdulrasaq, Q. O., Alebiosu, E. O., Ajayi Edward, Ibrahim S. I. & Adewale O. M.

### Abstract

Waste management is a very important aspect of human life that needs adequate monitoring. Failure to make adequate provisions for waste management could lead to the outbreak of diseases, affect the aesthetics of the environment and cause more damage to the environment. This study seeks to address strategies to curtail indiscriminate disposal of waste from the perception of waste managers. The population of the study consists of all the waste managers (2,000) in Kwara State. Systematic sampling technique was adopted in selecting 10% (200) of all the waste managers which represented the sample size for the study. A researcher designed instrument which was validated and tested for reliability was used to gather information from the selected waste managers in Kwara State. The instruments were sorted, coded and analyzed using descriptive statistics of frequency counts and simple percentages. The results revealed that waste managers agreed that strategies to curtail indiscriminate disposal among others include health education of the general public [192(96%)]; provision of waste disposal nylons [194(97%)], procurement of more waste collection equipment [197(98.5%)] and employment of more social workers [191(95.5%)]. The study concluded that strategies to curtail indiscriminate disposal includes health education, provision of waste packaging nylons among others. It was therefore recommended that market traders should be health educated on the health implications of the adoption of poor waste disposal methods, waste packaging nylons should be made available at very affordable price among others.

**Keywords:** Waste Managers, Perceived, Strategies, Curtail, Indiscriminate disposal

### Introduction

Waste (or wastes) is unwanted or unusable materials. Waste can also be defined as any substance which is discarded after primary use, or is worthless, defective and of no use. In the submission of Awosusi (2010), waste is regarded as that which is not or cannot be used, or no longer useful.

The amount of wastes (solid or liquid) generated in urban areas in the developing world are increasing with rapid population increases without adequate resources to go round to maintain the situation. However, for centuries, human beings have been supporting their growing numbers by inventing new technologies most especially in the developed world, which explore the productivity of their natural surroundings. Even though, nature appeared to have few limitations to some areas, but bestow other areas almost without limitation. It is worthy to note that growth and development of any city depends on the type of people that constitute the population concentration. The urge for better improved conditions of life, economic growth, employment opportunities, better living condition and other necessity of life are believed to be available in cities. As a result of this, many people rush to urban centers from rural areas, and consequently add to already overpopulated city inhabitants. As the pace of urbanization grows, the pressure increases at the rate by which wastes are generated, constituting greater problems. In Kwara State, there are limited infrastructural facilities to fulfill the expectations that led new comers to drifts to urban centers from rural areas (Ahmed, 2008). Living in the crowded environments, most new comers (to towns) vis-à-vis earlier residents of these towns remain ruralize in behaviour they now acquired, and, amidst insufficient arrangements for sanitization of

the new environment from filths which are dumped indiscriminately in streets and frontage of residential buildings.

Ahmed (2008) reported that in Ilorin, the capital of Kwara state, the problem of wastes is appalling because the more these wastes are evacuated the more they are generated on a daily basis. Huge amount of refuse are found dumped on unauthorized places, gutters and roads are filled up with sand and sediments which at times obstruct both free movement of pedestrians and vehicles alike. Thus, the issue of solid waste in Ilorin is quite distressing. Adetitun and Oyeyiola (2011) opined that while cities are generating an ever increasing volume of garbage, the effectiveness of their solid waste collection and disposal system is diminishing. In the urban centres throughout Nigeria, less than half of the solid waste produced is collected. It is either indiscriminately thrown away at various dumping sites on the periphery of urban centres, or at a number of so called temporary sites-typically empty lots scattered throughout the cities. These open dump sites often have serious environmental impacts that extend beyond their boundaries, polluting nearby water sources and serving as breeding grounds for disease bearing rodents and insects.

Coping with the rapid increase in solid waste generation within urban areas is a challenge to municipal authorities especially in developing countries. The low coverage challenge is attributable to increasing solid waste generation, high management costs, and lack of linkages between stakeholders and stage-wise understanding of the factors that affect solid waste management. Improper solid waste management leads to substantial health, environmental, social, and economic impacts. Also, according to Ayanshola, Aremu, Jacob, Bilewu and Salami(2015), solid waste causes extensive environmental effects in terms of emission of greenhouse gases, carcinogens, climate change, soil and water pollution. Social effects include blockage of drains, deterioration of the built environment, nuisance, unsightliness, and loss of tourist income. In terms of unquantifiable costs, improperly managed solid wastes usually results in down-stream costs higher than what it would have initially cost to manage the waste properly (Ayanshola, Aremu, Jacob, Bilewu & Salami, 2015).

Waste management in most part of Nigeria is horrific. Oyekan and Sulyman (2015) affirmed that 14% of Nigerian households have access to satisfactory refuse disposal system, and in both urban and rural areas of the country, refuse is buried, burnt or disposed haphazardly into rivers, streams, canals, forests and open spaces. As a result, solid waste are found everywhere especially in the country's populated urban centres. Zhu, Zurbrügg, Chris and Mani (2008) stated that public awareness and behaviour about waste can affect the whole solid waste management system (SWMS). Joseph, Ndukwe and Nwuzor (2016) reiterated that a lot of factors could be identified as being responsible for waste management challenges in Nigerian cities and prominent among those factors are lack of man power that can competently handle waste management strategy or equipment, lack of standard waste management equipment and the provision of which will help ameliorate the situation on ground. Imam, Mohammed, Wilson and Cheeseman (2008) and Oyeniya (2011) reported that more vehicles are needed to cope with the rising amount of waste generated daily. The provision of more waste evacuation vehicles will ease the burden on the available vehicles on ground that are expected to ply a vast amount of routes for the collection of waste and enhance the timely collection of waste from different generation points. Although different authors are of the opinion that more vehicles are needed to cope with the daily increase of the amount of waste generated, Hammed, Sridhar and Wahab (2016) is of the opinion that more and more waste collection vehicles are being imported by the government, drivers and maintenance staff are trained abroad, and yet no solution is found to the

management of waste in Oyo State. Suleiman (2013) suggested that in order to curtail the menace of indiscriminate disposal of waste, the Government should provide adequate waste disposal facilities such as refuse collection centres; environmental laws concerning waste management and control should be strong and strictly imposed in order to protect the environment against indiscriminate disposal of waste; waste management agencies should be well funded to enable them carry out their mandate and their capacity should be increased to boost the number of personnel, machineries and facilities for their activities; and there should be the introduction of waste recycling whereby some material such as paper, glass, plastics and many more can be recycled into new products which will reduce the amount of waste materials that need disposal.

### **Statement of the Problem**

Proper waste management is an important pivot for the healthful functioning of any environment, the absence of which can affect both the environment and the biotic elements within the environment. The researcher observed that waste management in Kwara State is faced with lot of challenges which is marginalizing the efforts of waste managers. Waste can be observed lying around the environment especially in gutters, on road verges, at some designated and non-designated waste collection points. In some cases, waste are scattered at designated collection points as a result of poor packaging of waste before disposal. It is in lieu of the foregoing that the researcher has deemed it fit to write on Waste Managers' perceived strategies to curtail indiscriminate disposal of waste.

### **Research Question**

In view of the issues and concerns surrounding this study, this research question was raised to guide the study:

1. What are the waste managers' perceived strategies to curtail indiscriminate disposal of waste among traders in Kwara State?

### **Methodology**

Descriptive survey research method was adopted for this study. According to Koul (2009) a descriptive research design provides a means through which opinions, attitudes, suggestions for improvement of educational practices and instructions can be obtained. The design is suitable because one can generalize with its findings and it is not expensive. The population of the study comprised of all waste managers (social workers) in Kwara State. According to the Kwara State Environmental Protection Agency (KWEPA), waste managers in Kwara State are referred to as social workers and according to their record, there are two thousand (2, 000) social workers in Kwara State (KWEPA, 2016). Systematic sampling technique was used in selecting ten percent (10%) representing 200 waste managers out of the entire population. The instrument that was used for the study was a researcher designed questionnaire which is meant to obtain the views of waste managers on the variables of the study. The items in the questionnaire were scored based on the direction of the questions. Responses (Agree) with a percentage of sixty percent (60%) and above were considered to be a factor contributing towards indiscriminate disposal of waste. The research instrument was validated by lecturers in the Department of Health, Safety and Environmental Education, University of Benin and Department of Health Promotion and Environmental Health Education, University of Ilorin. Their suggestions and corrections were incorporated in the final draft of the research instrument. To determine the reliability of the instrument, test re-test method of

reliability was adopted. Twenty copies of the questionnaires were administered to twenty waste managers in Kwara State using a systematic sampling technique in the selection of the respondents. The questionnaire was administered to the same set of respondents after an interval of two weeks. The two sets of questionnaire were analyzed using Pearson Product Moment Correlation Coefficient (PPMC) which yielded a correlation coefficient of 0.71 which was considered high enough to carry out the study. The instrument was administered by the researchers to the respondents after permission was obtained from the appropriate authorities at KWEPA. The data collected was sorted, coded and analyzed using descriptive statistics of frequency counts, percentages and bar charts.

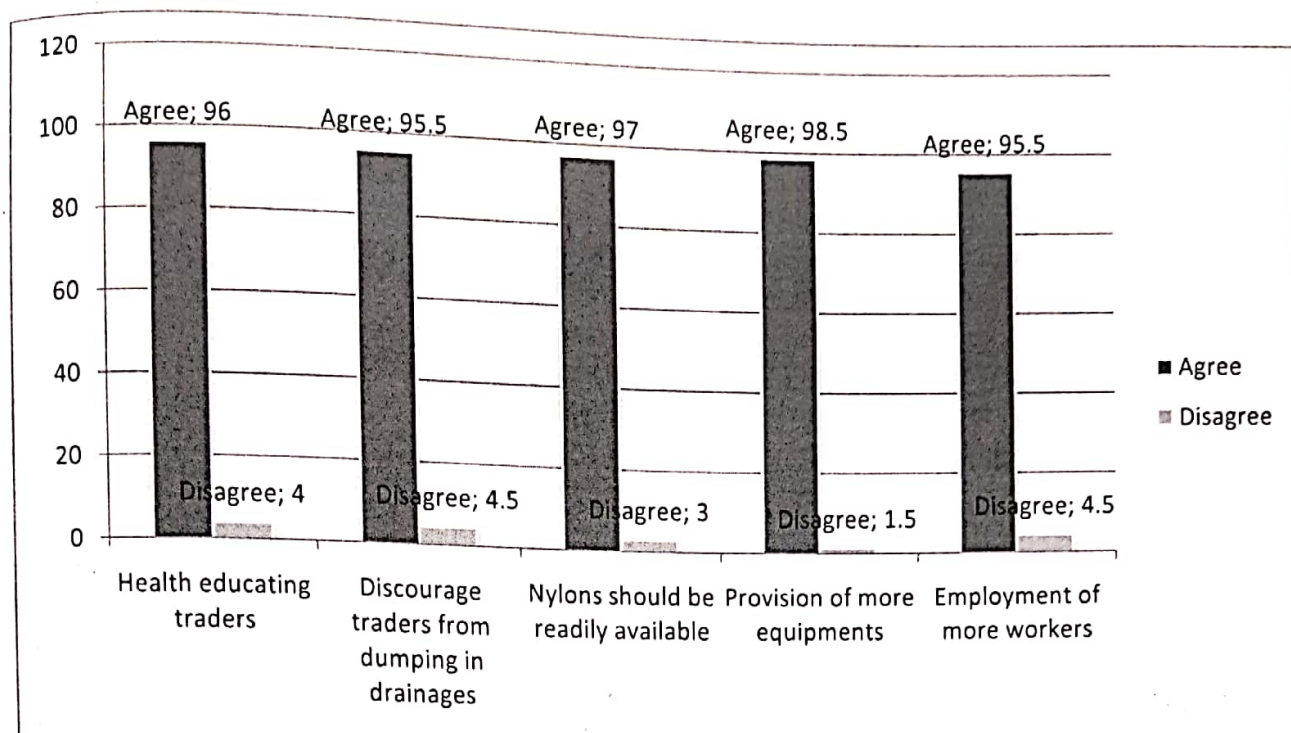
## Results

**Research question 1:** What are the Waste Managers' perceived strategies to curtail indiscriminate disposal of waste among traders in Kwara State?

**Table 1:** Waste Managers' perceived strategies to curtail indiscriminate disposal of waste among traders in Kwara State.

| S/N | Items                                                                                    | Agree          | Disagree    |
|-----|------------------------------------------------------------------------------------------|----------------|-------------|
| 1.  | Traders should be health educated on the health implication of poor waste disposal       | 192<br>(96.0%) | 8<br>(4.0%) |
| 2.  | Traders should be discouraged from the adoption of drainage dumping as a disposal method | 191<br>(95.5%) | 9<br>(4.5%) |
| 3.  | Waste packaging nylons should be made readily available at a subsidized rate for users.  | 194<br>(97.0%) | 6<br>(3.0%) |
| 4.  | More waste management equipment should be provided by relevant agencies                  | 197<br>(98.5%) | 3<br>(1.5%) |
| 5.  | More workers should be employed to ease the burden of waste collection                   | 191<br>(95.5%) | 9<br>(4.5%) |

Table 1 shows that 192 (96.0%) respondents agreed that traders should be health educated on the health implication of poor waste disposal while 8 (4.0%) of the respondents disagreed with the statement. 191 (95.5%) of the respondents agreed that traders should be discouraged from the adoption of drainage dumping as a disposal method, while 9 (4.5%) of the respondents did not agree with the statement. A total of 194 or (97.0%) of the respondents agreed that waste packaging nylons should be made readily available at a subsidized rate for users, while 6 (3.0%) of the respondents did not agree with the statement. 197 (98.5%) of the respondents agreed that more waste management equipment should be provided in order to manage waste effectively, while 3 (1.5%) of the respondents disagreed with the statement. Finally, a total of 191 (95.5%) respondents agreed that more workers should be employed to ease the burden of waste collection, while 9 (4.5%) of the respondents disagreed with this statement.



**Fig. 1:** Bar chart showing responses of respondents on perceived strategies to curtail indiscriminate disposal of waste in Kwara State

Figure 1 shows that health educating market traders (96%); discouraging traders from dumping in drainages; provision of disposal nylons (97%); provision of more equipment (98.5%); and employment of more workers (95.5%) are strategies that can be adopted to curtail indiscriminate disposal of waste in Kwara State.

### Discussion of Findings

This study examined waste managers' perceived strategies to curtail indiscriminate disposal of waste among traders in Kwara State.

**Research question:** what are the waste managers' perceived strategies to curtail indiscriminate disposal of waste among traders in Kwara State? One hundred and ninety two 192 (96.0%) respondents agreed that traders should be health educated on the health implication of poor waste disposal, while eight 8 (4.0%) of the respondents disagreed with the statement. This finding is in line with the finding of Zhu, Zurbrugg, Chris and Mani (2008) which stated that public awareness and behaviour about waste can affect the whole solid waste management system (SWMS). Therefore, to correct this anomaly, market traders should be health educated on the importance of adopting the proper forms of waste disposal and the effect of poor waste disposal on health and environment.

One hundred and ninety one 191 (95.5%) of the respondents agreed that traders should be discouraged from the adoption of drainage dumping as a disposal method while nine 9 (4.5%) of the respondents did not agree with the statement. To discourage traders from adopting poor forms of waste disposal, relevant agencies can develop advocacy programmes and educate the public on dangers surrounding improper disposal of waste.

A total of one hundred and ninety four 194 (97.0%) of the respondents agreed that waste packaging nylons should be made readily available at a subsidized rate for users but 6 (3.0%) of

the respondents did not agree with the statement. One hundred and ninety seven 197 (98.5%) of the respondents agreed that more waste management equipment should be provided in order to manage waste effectively but three 3 (1.5%) of the respondents disagreed with the assertion. These findings are in line with the finding of Joseph, Ndukwe and Nwuzor (2016) which stated that a lot of factors could be identified as being responsible for waste management challenges in Nigerian cities and prominent among those factors are lack of man power that can competently handle waste management strategy or equipment, lack of standard waste management equipment and the provision of which will help ameliorate the situation on ground. The findings are also in line with that of Imam, Mohammed, Wilson and Cheeseman (2008) and Oyeniyi (2011) which stated that more vehicles are needed to cope with the rising amount of waste generated daily. The provision of more waste evacuation vehicles will ease the burden on the available vehicles on ground that are expected to ply a vast amount of routes for the collection of waste and enhance the timely collection of waste from different generation points. Although different authors are of the opinion that more vehicles are needed to cope with the daily increase of the amount of waste generated, Hammed, Sridhar and Wahab (2016) negated this opinion by making the submission that more and more waste collection vehicles are being imported by the government, drivers and maintenance staff are trained abroad, and yet no solution is found to the management of waste in Oyo State. In the case of this study, it is believed that the availability of more waste collection vehicles will improve the timely collection of waste from various waste collection points and reduce the rate at which waste are being disposed off indiscriminately.

Finally, a total of one hundred and ninety one 191 (95.5%) respondents agreed that more workers should be employed to ease the burden of waste collection but nine 9 (4.5%) of the respondents disagreed with this statement. This finding is in line with that of Suleiman (2013) who suggested that in order to curtail the menace of indiscriminate disposal of waste, the waste management agencies should be well funded to enable them carry out their mandate and their capacity should be increased to boost the number of personnel, machineries and facilities for their activities; the Government should provide adequate waste disposal facilities such as refuse collection centres; environmental laws concerning waste management and control should be strong and strictly imposed in order to protect the environment against indiscriminate disposal of waste; and there should be the introduction of waste recycling whereby some material such as paper, glass, plastics and many more can be recycled into new products which will reduce the amount of waste materials that need disposal.

## **Conclusion**

The study concluded that health education; provision of waste packaging nylons; provision of more waste management equipment; and employment of more workers are strategies that can be put in place to checkmate indiscriminate disposal of waste.

## **Recommendations**

Based on the findings and conclusion of the study, it was recommended that market traders should be health educated on the health implication of poor waste disposal techniques; waste packaging nylons should be made readily available and affordable for everyone; more waste management equipment should be procured to help waste managers cover a larger area in a little time; and more social workers should be employed to ease the tension on those presently on ground.

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