

Approaches for Improving Management of Households Waste for Healthy and Sustainable Environment in Abia State, Nigeria

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Abstract

The adequate management of household's waste is imperative for the realization of several fundamental human rights, most especially the right to life and the right to a health and Sustainable environment. However, waste management has been one of the major challenges facing Abia state and some other part of the country, hence the need to identify effective waste management approaches cannot be over emphasized. Therefore, the study centered on the approaches for improving management of household's waste for healthy and sustainable environment in Abia state, Nigeria. Two research questions and two null hypotheses guided the study, using a descriptive survey, the population of the study is 150 household members and 50 staff of Abia state Environmental protection Agency (ASEPA) randomly selected, bringing the entire population to 200 respondents. The entire population was used. Instrument for data collection was a researcher - made questionnaire, duly validated and the reliability tested, using Cronchbach alpha, which yielded a co-efficient index of 0.87. The researchers and 9 assistants administered and retrieved the questionnaire. 100% return rate was achieved. Mean and standard deviation was used to answer the research questions while t-test was used to test the hypotheses at 0.05 level of significance. The Analyzed data identified effective approaches for improving management of household's waste for health and sustainable environment in Abia state. It was recommended among others, that solid Waste Management in Abia state should become the concern of everybody – the landlords, tenants, school children, traders, businesspeople, civil servants, the privileged, the politicians etc.

Keywords: Waste; Management; Approaches; House; Healthy and sustainable environment

Introduction

It has been discovered that among developing nations in the world, Nigeria is one of the most urbanizing countries. Thus, the development of urban centers in Nigeria has a historical antecedent dating back to the pre-colonial era. That is to say, urbanization in Nigeria has been in existence before the advent of European colonization. Scio-economic and political factors such as rapid rate of population growth; viable economic enterprises and increase size of rural-urban migration played a significant role towards the development of urbanization in Nigeria [1]. However, it has become a complex and difficult issue for the government to maintain and handle some of its social administrative duties in the urban areas. Such duties include waste management which is regarded as the most disturbing phenomenon in most urban cities like Abia state; hence one of the most problematic phenomena in Abia state today is solid waste management.

Household waste management therefore is concerns with the interplay among generation, storage, collection and final disposal

from homes [2]. Researchers has observed on the average, a balance of 100 metric tons of solid waste are piled up daily in Cities- Abia state. This is because while about 350 metric tons of wastes are generated daily, the maximum rate of evacuation achievable was only 250 metric tons daily. Uchegbu [3] remarked that cities like Enugu, Abia, Lagos, Kano, etc. in Nigeria produced on the average 46kg of waste per person, per day. As living standards rise, people consume more and generate more waste. Right from 1990s Abia state and other cities has metamorphosed into a resort center because of its congenial living environment which attracts an influx of weekend leisure seekers into the city. These leisure seekers merely come into city to relax, consume and enjoy themselves every weekend thus contributing enormously to weekly waste generation. At Abia state, the rate of waste generation is so high that in one night, a refuse dump site that was cleared the previous day could be replaced with an equal volume of waste the following morning, thus creating the erroneous impression that it was never clear before. According to the Oxford

English Dictionary, waste is any item that is no longer in use or cannot be used for any good purpose. Waste has been defined as any useless, unwanted or discarded material (American Public Work Association, 1975). Waste is sticky and weighty in nature and therefore has the capacity of accumulating and defacing the physical environment if not well managed [1].

The sources from which wastes are generated ranges from municipal (street sweeping, sewage treatment plants, schools etc.) to residential (flood wastes, plastics, vehicles, wood, glass etc.), industrial (demolition materials, ashes etc.) agricultural sources (spoiled food waste, pesticides, etc.). Waste disposal can be carried out using several options but before any of these options can be adopted, three vital factors should be considered. Firstly, the physical characteristics of the locality as regards the topography of the area where waste management activities are to be carried out because waste disposal often requires a large parcel of land for an efficient operation especially of sanitary landfill is to be adopted; secondly, the character, quality and quantity of waste to be disposed of. The quantity and nature of household refuse varies greatly from region to region and thirdly, the financial allocation available as adequate budget any allocation must be available for capital outlay and running cost [4]. Various waste management authorities require different types of extensive refuse vehicles that cost a lot to maintain at the commencement of the operations and these vehicles do not often remain serviceable for long due to poor operation, maintenance and non-availability of spare parts. Waste management is the collection, transport, processing or disposal, managing and monitoring of waste materials. The term usually relates to materials produced by human activity and the process is generally undertaken to reduce their effect on health, the environmental or aesthetics.

Thus; even though the environmental sanitation and protection unit in Abia state is trying to maintain environmental sanitation, more needs to be done to manage the wastes been generated. The introduction of disposal containers and bins is a right step in solving or reducing this problem [5]. However, these containers are often left to fill and spill garbage on the ground causing a very unpleasant sight. This results in irritation not to mention the offensive odours coming from such garbage area with the infestation of rats, cockroaches, insects, flies and other disease vectors and rodents. The need for this study arises as an urgency to update effective approaches for household waste management for healthy and sustainable environment in Abia state [6,7].

Statement of the Problem

One of the major problems facing Abia state today is that of waste management as it is seen littered and scattered everywhere defacing the physical environment. Nobody likes to think of waste, but the fact remains that household waste is a pressing concern of our modern society. Over the years, the amount of the household waste generated has grown steadily in part because of increasing population and more so because of changing lifestyles and the

increasing use of disposal materials. The challenges posed by this household waste is that it is generated at a pace much faster than available means to manage it. The increasing rate at which waste is generated is 70% as compared to 30% of effective management and disposal methods. The problem of waste management in the Abia state is worsened by the ever-increasing population in the state which results in an increase in the waste materials.

The smell of offensive odours cannot be taken for granted. This problem is further compounded by hawkers who dump their waste indiscriminately everywhere. The indiscriminate littering of solid waste in the state has reached an alarming rate. Evidence shows that the indiscriminate disposal of household waste has a multiplicity effect on the environment. This greatly degrades the environment of its aesthetics and even causes diseases. Upon this premises, the need for a search of an effective approaches for household waste management in Abia state cannot be over emphasized.

Purpose of the Study

The main aim of this work was to assess the effective approaches for household waste management for healthy and sustainable environment in Abia state.

Specifically. The study intends to;

- determine self-help approaches for household waste management for healthy and sustainable environment in Abia state.
- assess governmental approaches for household waste management for healthy and sustainable environment.

Research questions

The following research questions guided the study;

- What are the approaches for household waste management for healthy and sustainable environment in Abia state?
- What are the governmental approaches for household waste management for healthy and sustainable environment?

Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance.

H₀₁: There is no significant difference in the mean response of household members and Staff of Abia state Environmental staff (ASEPA) on the self-help approaches for household waste management for healthy and sustainable environment.

H₀₂: There is no significant difference in the mean response of household members and Staff of Abia state Environmental staff (ASEPA) on the governmental approaches for household waste management for healthy and sustainable environment.

Methodology

The study adopted survey research design. This design was considered suitable because the opinion of a representative sample of respondents was sought using questionnaire and the finding was generalized on the entire population of marital couples. The population of study consisted of all the household members and Staff of Abia state Environmental staff (ASEPA). Purposive and random sampling technique were used to select 200 respondents. The instrument for data collection was questionnaire titled: Approaches for Household Waste Management for Healthy and Sustainable Environment in Abia State (AHWMHSE). The questionnaire was developed from literature by the researchers and used for data collection. The AHWMHSE had a four-point response scale of strongly agreed (SA), Agreed(A), Disagreed (D) and Strongly disagreed (SD) with corresponding values of 4, 3, 2, and 1 respectively.

However, the instrument was face validated by three University lecturers; two from Agricultural and Home economics Department and one from Measurement and Evaluation unit, all from Michael Okpara University of Agriculture Umudike, Abia State. Their corrections and suggestions were utilized to improve the initial copies of the questionnaire to produce the final copies. Cronbach Alpha reliability method was adopted to determine

the internal consistency of the questionnaire items. A Cronbach Alpha coefficient of 0.87 was obtained and the collected data was analyzed using mean and standard deviation for research questions and t-test for the tested hypothesis. Any mean response of 2.50 and above was considered as agreed while any item with mean response below 2.50 was considered as disagreed. For hypothesis testing, t-test was used to test the null hypotheses at 0.05 level of significance. The null hypothesis for any item was not rejected where the p-value was greater than the alpha value of .05 but was rejected where the p-value was less than the alpha value of 0.05.

Data Presentation and Analysis

Research question 1

What are the approaches for household waste management for healthy and sustainable environment in Abia state?

Hypothesis 1

There is no significant difference in the mean response of household members and Staff of Abia state Environmental staff (ASEPA) on the self-help approaches for household waste management for healthy and sustainable environment.

The data that answered research question and hypothesis one was presented on Table 1 below.

Table 1: Analysis of the responses of household members and Staff of Abia state Environmental staff (ASEPA) on the self-help approaches for household waste management for healthy and sustainable environment. N =200.

S/N	Self Help Approaches	Mean	S	P-value	Decision
1	Every house should be provided with a dustbin for waste.	3.12		0.95	Agreed, NS
2	Landlords should penalize their tenants for filthy residence.	3.13		0.97	Agreed, NS
3	Only adults should be involved in household waste disposal	3.14		0.98	Agreed, NS
4	Household operators of convenience shops, stores, vending and fast food outlets as well as organizers of public and private events should always provide receptacles for both litter and recyclable materials.	3.09		0.87	Agreed, NS
5	Household members should make environmental cleanliness a concern at all time	3.14		0.98	Agreed, NS

Key: SD-standard Deviation, N- Number of respondents, S= Significant, NS= Not Significant and Sig ≥.05.

The data presented in table 1 showed the mean rating of household members and Staff of Abia state Environmental staff (ASEPA) on the 5 items had their ranged from 3.12 – 3.14 and were all above the cut-off value of 2.50 on a 4-point rating scale. These however indicated agreed. Therefore, the mean of 3.12–3.14 showed that the household members and Staff of Abia state Environmental staff (ASEPA) agree with the identified self-help approaches for waste management for healthy and sustainable environment. The standard deviation of all the 5 items ranged from .87 to .98, which showed that the respondents were not too far from the mean and the opinion of one another in their responses on the self-help approaches for waste management for healthy and sustainable environment.

The p-values on all the items were all greater than the alpha-value of 0.05. With the forgoing, we therefore accept the null hypothesis for the items and reject the alternate hypothesis. Which

means There is no significant difference in the mean response of household members and Staff of Abia state Environmental staff (ASEPA) on the self-help approaches for waste management for healthy and sustainable environment.

Research question 2

What are the governmental approaches for household waste management for healthy and sustainable environment?

Hypothesis 2

There is no significant difference in the mean response of household members and Staff of Abia state Environmental staff (ASEPA) on the governmental approaches for household waste management for healthy and sustainable environment.

The data that answered research question and hypothesis two were presented on table 2 below.

Table 2: Analysis of the responses of household members and Staff of Abia state Environmental staff (ASEPA) on the Governmental approaches for waste management for healthy and sustainable environment. N=200.

S/N	Governmental Approaches	Mean	S	P-value	Decision
1	Government should provide a permanent site around strategic areas for effective waste disposal and educate its citizens on proper disposal processes	3.14		0.98	Agreed, NS
2	Introduction of special advisers to the governors on waste management.	3.13		0.97	Agreed, NS
3	Creation of sanitation committees in the State Houses of Assembly	3.14		0.98	Agreed, NS
4	Management of waste should be headed by environmentalist	3.14		0.98	Agreed, NS
5	Government should make adequate funding of waste management a concern and Environmental sanitation should become fortnightly.	3.14		0.98	Agreed, NS
6	Annual awards for cleanest neighborhoods should be established	3.11		0.86	Agreed, S
7	Adequate monitoring and surveillance of waste disposal by not only Agencies concern but also the committees and advisers established	3.29	0.62	0.52	Agreed, NS

Key: SD-standard Deviation, N- Number of respondents, S= Significant, NS= Not Significant and Sig \geq .05.

The data presented in table 2 showed the mean rating of household members and Staff of Abia state Environmental staff (ASEPA) on the 7 items had their ranged from 3.11 – 3.29 and were all above the cut-off value of 2.50 on a 4-point rating scale. These however indicated agreed. Therefore, the mean of 3.11– 3.29 showed that the household members and Staff of Abia state Environmental staff (ASEPA) agree with the identified the governmental approaches for waste management for healthy and sustainable environment. The standard deviation of all the 7 items ranged from .52 to .98, which showed that the respondents were not too far from the mean and the opinion of one another in their responses on the roles of counselors in curbing drug abuse among secondary school students in Abia state.

The p-values on all the items were all greater than the alpha-value of 0.05. With the forgoing, we therefore accept the null hypothesis for the items and reject the alternate hypothesis. Which means there is no significant difference in the mean response of household members and Staff of Abia state Environmental staff (ASEPA) on the governmental approaches for waste management for healthy and sustainable environment.

Discussion of Findings

The data presented in table 1 showed the mean rating of household members and Staff of Abia state Environmental staff (ASEPA) on the 5 items had their ranged from 3.12 – 3.14 and were all above the cut-off value of 2.50 on a 4-point rating scale. These however indicated agreed. Therefore, the mean of 3.12-3.14 showed that the household members and Staff of Abia state Environmental staff (ASEPA) agree with the identified self-help approaches for waste management for healthy and sustainable environment. This finding is supported by the view of Davidson [8] who noted that waste management practices differ for developed and developing countries and that every urban and rural residential should be provided with a dustbin for waste. More so, household members should take up environmental cleanliness as a personal duty.

The data presented in table 2 showed the mean rating of household members and Staff of Abia state Environmental

staff (ASEPA) on the 7 items had their ranged from 3.11 – 3.29 and were all above the cut-off value of 2.50 on a 4-point rating scale. These however indicated agreed. Therefore, the mean of 3.11- 3.29 showed that the household members and Staff of Abia state Environmental staff (ASEPA) agree with the identified the governmental approaches for waste management for healthy and sustainable environment. Similarly, Uwadiwegwu & Chukwu [9] who recorded that among the strategies to use in the management waste in Nigeria are government supported agency, Initiation and development of neighborhood spirit and Reintroduction of sanitary inspectors.

Conclusion and Recommendations

Conclusion

Household Waste management requires the concern of government, businessmen, politicians, religious organizations, civil servants, men, women, literate, children, illiterate, the rich, the poor and a host of others. All these and more must be brought together by government policies to work together like welfare agencies to attack vigorously the waste challenges. Thus, the search for an effective approach of waste management leads to a search for a comprehensive, coordinated and governmental planning which will combine with adequate policies, adequate fiscal provision, public involvement and awareness to bring about the expected improvement in the quality of our dear state and country at large; Hence these and more are the only ways to ensure to a reasonable extent a healthy and sustainable environment in Abia state.

Recommendations

Based on the findings from the study, the following recommendations are made;

- a) Waste Management in Abia state and Nigeria should become the concern of everybody – the landlords, tenants, school children, traders, businesspeople, civil servants, the
- b) privileged, the politicians etc.
- c) Government should provide a permanent site around

strategic areas for effective waste disposal and educate its citizens on proper disposal processes

d) There should be introduction of special advisers and committees to the governor on waste management in the state and other different states in Nigeria.

e) Government should provide financial supports and enabling policies that will establish waste management agencies as Independent Waste Management Authorities which will function like a private business corporation. This will enhance its efficiency because it will aspire to break even and at the same time try to live up to expectations.

f) Operators of convenience shops, stores, vending and fast food outlets as well as organizers of public and private events should always provide receptacles for both litter and recyclable materials; and develop a pollution prevention strategy to promote source reduction.

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