ISRG Journal of Arts, Humanities and Social Sciences (ISRGJAHSS)

ISRG PUBLISHERS
Abbreviated Key Title: ISRG J Arts Humanit Soc Sci
ISSN: 2583-7672 (Online)
Journal homepage: https://isrgpublishers.com/isrgjahss
Volume – II Issue-V (September-October) 2024
Frequency: Bimonthly

ENVIRONMENTAL CHALLENGES RESULTING FROM INDISCRIMINATE SOLID WASTE DISPOSAL IN AKURE METROPOLIS, ONDO STATE, NIGERIA

David Toyin ALADEJEBI[1*], Samuel Olanrewaju OLADAPO[2]

[1, 2] Department of Social Science Education, Adekunle Ajasin University, Akungba-Akoko, Nigeria

| **Received:** 08.09.2024 | **Accepted:** 13.09.2024 | **Published:** 15.09.2024

***Corresponding author:** David Toyin ALADEJEBI
Department of Social Science Education, Adekunle Ajasin University, Akungba-Akoko, Nigeria

Abstract

The economic implication of poor and inappropriate waste disposal on man and his immediate environment has become an issue of serious concern at local, national and international levels. Hence, this study examines the environmental challenges resulting from indiscriminate solid waste disposal in Akure Metropolis, Ondo State, Nigeria.

The study employed a descriptive research design while the population for the study comprises residents of Akure South Local Government Area with a sample size of two hundred (200) respondents randomly selected from different sections of the study area. Data collection was done through the administration of structured, self- constructed questionnaire designed on a four-point likert scale type while the data collected were analyzed through descriptive statistics.

Findings revealed that environmental waste are generated from residential homes, places of worship, commercial centers among others; waste generated are in different forms, some of the environmental wastes are solids such as metals, polythene materials, paper, wood and agricultural waste which cannot easily decompose; less than 10% percentage of residents of study area dispose their waste properly using government approved waste bins; there is shortage of both environmental waste disposal facilities and personnel managing the services, as well as lack of commitment by some of the personnel.

In view of the responses from the respondents, it was concluded that management of waste in the study area is a challenge that needs urgent attention. Therefore, based on the findings of the study, it was recommended that. more effort should be directed towards public enlightenment on dangers of inappropriate environmental waste disposal; government should means of appropriate waste disposal available to the residents; additional waste disposal/management personnel must be employed; there must be adequate monitoring of the agency in charge of waste management to ensure its effectiveness and government must ensure that environmental waste laws and its penalty is fully enforced.

Keywords: *Environmental waste, epidemics, environmental laws, waste disposal.*

DOI: 10.5281/zenodo.13764784

Introduction

It is impossible to overstate the significance of our living environment. The reason for this is that human sustainability is heavily reliant on how the environment is utilized. Nigeria's National Policy on Environment (2016) defines the environment as "the life supporting system for human existence and survival that provides much of the physical scene and the raw materials required for socio-economic progress, which continuously interact among themselves and human beings." Numerous actions that diminish the value of the environment to human well-being are carried out on a daily basis as a result of human contact with the surroundings. Aladejebi (2020) and Ifegbesan & Rampedi (2018) list handling human waste as one of these unhealthy practices that has put humanity in tough situations. An unfathomable rise in air and water pollution, as well as indiscriminate dumping of garbage, are among the usual effects of inadequate handling of waste generated by diverse human activities in the human environment (Aladejebi, 2020). Also, this contributes to flooding.

In Nigeria, managing and disposing of waste is one of the main environmental issues that has drawn the attention of everyone (Amokaye, 2012; Odumosu of 2016). Nigeria's enormous and steadily growing population, according to Oyewale (2015), is a contributing factor in the country's solid waste management and disposal issues. FEPA (2016) also emphasized that the government's top environmental worry in Nigeria is solid waste management, as the country's estimated annual domestic waste volume of 63 million tons has increased and is becoming more and more of a problem. The solid trash generated by the aforementioned volume comes from a variety of domestic sources, including homes, workplaces, schools, hospitals, building and demolition sites, restaurants, and so forth. Plastics, nylon, glass, and metals are examples of non-perishable waste materials. Some agricultural products, such as fruits, vegetables, and food items, are perishable.The study examines the environmental issues brought on by the careless dumping of solid garbage in Akure Metropolis, Ondo State, Nigeria, among other things.

OBJECTIVES OF THE STUDY

The specific objectives of the study are to:

1. Access the source of solid waste in Akure metropolis.
2. Identify the types of solid wastes generated by residents of Akure.
3. Describe the methods of disposing solid waste by residents of Akure.
4. Examine the challenges faced by residents of Akure metropolis concerning solid waste disposal.

The study is guided by the following research questions in order to achieve the above stated objectives:

1. What are the sources of solid waste generated in Akure Metropolis?
2. What are the types of solid waste generated by residents of Akure?
3. Which methods are used in disposing waste by the residents of Akure?
4. What are the challenges faced by residents of Akure metropolis regarding waste disposal?

Solid Waste management and Disposal in Nigeria

Since the government of Nigeria works to make sure that every effort is made to meet the demand on environmental matters worldwide, the country acknowledges that the need for adequate as well as proper usage and management of the environment is a matter of global concern. The Nigerian government established the Federal Environmental Protection Agency (FEPA) in an effort to guarantee appropriate use and management of the environment for the welfare of the populace. The National Policy on Environment (NPE), which was updated in 2016, was created by the FEPA in 1989. According to NPEE (p.12) (2016), the specific objectives of the FEPA are to "raise public awareness and inculcate a national culture of environmental preservation and promote an understanding of the essential linkages between the environment, social and economic development issues." Stated differently, one of NPE's responsibilities is to develop individuals capable of making decisions that promote environmental sustainability and the health of the world. Conscious attempts to dispose of waste in our environment properly are examples of such constructive decisions.

According to Abila and Kantola (2013), one of the biggest issues confronting Nigeria's state and local government environmental protection organizations is solid waste management. This is the result of the volume of solid trash generated increasing more quickly than the agencies' capacity to provide the financial and technical resources required to solve the issue. According to Ogwueleka (2013), ineffective collection techniques, a lack of system coverage, and inappropriate solid waste disposal are some of the causes of Nigeria's historically high level of inadequate waste management.

Nigeria disposes of waste in an uncontrolled manner, and there are numerous rubbish dumps scattered throughout various urban areas, making solid waste disposal a serious issue. (Abila et al., 2013); P. 31 of FEPA, 2016. Many families were forced to dispose of their household waste in any open location due to inadequate waste collection arrangements in certain urban regions (Abila, et.al, 2013). The incompetence of the staff made this service useless even in locations where waste collection and disposal are organized. This can occasionally be the cause of the various locations where trash is dumped. According to FEPA (2016), one consequence of these behaviors is the emergence of unpleasant odors and an increase in air and land pollution due to the degraded garbage, which also poses a health risk to the public. In Odumosun (2016). Furthermore, according to Abila (2014) and Ogwueleka (2013), a few factors that distinguish solid waste disposal in developing nations like Nigeria from that of developed nations include the waste's composition, density, political and economic framework, quantity, accessibility for collection, awareness, and attitude.

Based on the submissions from many experts, the researcher believes that there is a significant degree of careless garbage disposal and dumping in Nigeria, along with a flagrant disdain for rules and laws. In such a scenario, it might be challenging to attain reasonable development in the near or long term. Inadequate waste management will lead to an unbalanced environment. Therefore, efforts must be made to ensure that the impacts of waste in the environment do not in any way interfere with maintaining the environment both now and in the future in order to achieve sustainable development. Both the government and the people have a part to play in achieving the aforementioned goals. The government must take a more proactive role in arranging the handling of garbage. Additionally, sufficient facilities must be made available for the correct disposal of garbage. As responsible

DOI: 10.5281/zenodo.13764784

citizens, we all have a responsibility to dispose of waste in the proper way and location.

Methodology

This study used a descriptive research design as its methodology. This made it possible for the researcher to compile pertinent data regarding the environmental issues brought on by the careless dumping of solid garbage in Akure Metropolis, Ondo State, Nigeria. Ondo State, one of the six states in Nigeria's South-West Geopolitical Region, has Akure as its capital. For this study, a sample of two hundred (200) respondents was used. The sample was chosen using a straightforward random sampling method. A questionnaire was utilized in the process of gathering data. There are two sections to the questionnaire, which was approved by two specialists to determine its suitability. While section B contains materials appropriate for addressing the study questions, section A contains the respondents' personal information. The survey uses a four-point Likert scale with the options of strongly agreeing (SA), agreeing (A), disagreeing (D), and strongly disagreeing (SD). The researcher and two additional research assistants administered the instrument to the chosen respondents in the sampled area. Frequency counts and percentages were used in descriptive statistics to analyze the data that were gathered.

Results and Discussion

Data collected were analyzed and presented as shown below:

Table 1: Demographic analysis of respondents based on gender.

Gender	Frequency	%
Female	156	78
Male	44	22
Total	**200**	**100**

Table 1 above revealed that 156 (78.0%) of the respondents were female while 22(22.0%) of the respondents were male. This implied that more female participated in the study than male.

Data Analysis in respect of Research Questions

Research Question 1: What are the sources of solid waste generated in Akure Metropolis?

Table 2: Sources of solid waste in Akure Metropolis

Items	SA		A		DA		SDA	
Solid wastes are generated from household, commercial, school, hospital, construction & Agriculture	132	66.0	68	34.0	0	0.0	0	0.0
Waste generated through demolition	109	54.5	91	45.5	2	1.0	0	0.0
Daily usage of polythene, papers, leathers by individuals generate solid waste	138	69.0	62	31.0	0	0.0	0	0.0
Agricultural and industrial solid wastes are the most common source of solid wastes in your area	94	47.0	102	51.0	4	2.0	0	0.0
Industrial solid waste should not be considered as a major source of solid waste in your environment	0	0.0	0	0.0	70	35.0	127	63.5

According to table 2 above, 132 (66%) of the respondents strongly agreed that homes, businesses, schools, hospitals, construction sites, and agricultural produce are the sources of solid trash. although 68 (34%) of those surveyed concurred. Approximately 109 (54.5%) of the respondents strongly agreed that building demolitions also generate solid waste, whereas 91 (45.5%) of the respondents agreed and 2 (1%) disputed that building demolitions generate garbage.

In addition, 132 (69%) of those surveyed strongly agreed that people's daily use of polythene, papers, and leathers results in solid waste. 62 (31%) of the respondents agreed that people's daily use of leather, paper, and polythene results in solid waste being produced. Furthermore, 102 (51%) respondents agreed and 4 (2%) disagreed that the most prevalent sources of solid trash in your area are industrial and agricultural solid wastes (94, 47%).

Nevertheless, 70 (35%) people disagreed and 127 (63.5%) strongly disagreed that industrial solid waste shouldn't be regarded as a significant source of solid waste in your area.

Research Question 2: What are the types of solid waste generated by residents of Akure?

Table 3: Types of solid waste generated by residents of Akure?

Items	SA		A		DA		SDA	
Demolition waste can be called solid waste	24	12.0	168	84.0	8	4.0	0	0.0
Coconut shell, snail shell are also generated in homes and commercial markets.	192	96.0	8	4.0	0	0.0	0	0.0
Organic solid wastes are also generated in commercial and industrial area	196	98.0	4	2.0	0	0.0	0	0.0
Inorganic solid wastes such as bottles, plastics, metals, clothes are generated at home and school	189	94.5	11	5.5	0	0.0	0	0.0
Inorganic solid wastes such as hair, razor blade, needle, syringe are generated by salons and hospitals	24	12.0	168	84.0	8	4.0	0	0.0

DOI: 10.5281/zenodo.13764784

From the above table, 24 (12%) of respondents strongly agreed that demolition waste can be called solid waste while 168 (84%) of respondents agreed and 8 (4%) disagreed that demolition waste can be called solid waste. Also, 192 (96%) of respondents strongly agreed that coconut shell, snail shell are also generated in homes and commercial markets while 8 (4%) of respondents agreed. 196 (98%) of respondents strongly agreed that organic solid wastes are also generated in commercial and industrial areas while 4 (2%) of respondents agreed that organic solid wastes are also generated in commercial and industrial areas.

However, 189 (94.5%) of respondents strongly agreed that inorganic solid wastes such as bottles, plastics, metals, clothes are generated at home and school and clubs house and markets while 11 (5.5%) of respondents agreed. Also, 24 (12%) of respondents strongly agreed that inorganic solid wastes such as hair, razor blade, needle, syringe are generated by salons and hospitals while 168 (84%) of respondents agreed and 8 (4%) disagreed that inorganic solid wastes are generated by salons and hospitals.

Research Question 3: Which methods are used in disposing waste by the residents of Akure?

Table 4: Method of disposing solid waste by residents of Akure Metropolis

Items	SA		A		DA		SDA	
I burn the refuse I pack from my shop or house everyday	100	50.0	92	46.0	8	4.0	0	0.0
Waste collector pack my refuse regularly	119	59.5	76	38.0	5	2.5	0	0.0
Open landfills are used majorly in Akure	118	59.0	72	36.0	10	5.0	0	0.0
Household Landfills should be encouraged more than central landfills.	96	48.0	94	47.0	10	5.0	0	0.0
Open burning and burying of wastes by residents should be carried out because the shortcomings of the government.	64	32.0	116	58.0	10	5.0	0	0.0

From table 4 above, open burning analysis shows that 100 (50%) of respondents strongly agreed that they burn the refuse or solid waste obtained from their shops or houses while 92 (46%) of respondents agreed and 4 (2%) disagreed. 119 (59.5%) of respondents strongly agreed that waste collector pack their waste or refuse regularly while 76 (38%) agreed and 5 (2,5%) disagreed. 118 (59%) of respondents strongly agreed that open landfill are used majorly in Akure while 72 (36%) of respondents agreed and 10 (5%) of respondents disagreed. 96 (48%) of respondents strongly agreed that household landfills should be encouraged more than central landfills while 94 (47%) of respondents agreed but 10 (5%) disagreed. 64 (32%) of respondents strongly agreed that open burning and burying of wastes by residents should be carried out because of government shortcomings, 116 (58%) of respondents agreed while 10 (5%) disagreed.

Research Question 4: What are the challenges faced by residents of Akure metropolis regarding waste disposal?

Table 5: Challenges of solid waste disposal

Items	SA		A		DA		SDA	
I drop my waste indiscriminately because waste management board vehicle has not been coming to my area	94	47.0	102	51.0	4	2.0	0	0.0
I drop my waste indiscriminately because there is no provision of waste bins and incinerators	127	63.5	70	35.0	3	1.5	0	0.0
There is no adequate space for burning refuse in my area, hence the need to drop it in drainages	100	50.0	92	46.0	8	4.0	0	0.0
The Government are not providing environment waste disposal facilities where wastes can be dropped	119	59.5	76	38.0	5	2.5	0	0.0
The building plans in my area prevent space for dropping refuse.	118	59.0	72	36.0	10	5.0	0	0.0

According to table 5 above, 102 (51%) respondents strongly agreed, 4 (2%) disagreed, and 94 (47%) strongly agreed that they discard solid garbage indiscriminately since the waste management board truck hasn't been visiting their neighborhood on a regular basis. According to the results, 127 (63.5%) of the respondents strongly agreed that they dispose of their waste carelessly since there are no dumpsters or incinerators nearby, whereas 70 (35%) and 3 (1.5%) disagreed. The findings indicated that while 92 (46%) and 8 (4%) of the respondents strongly agreed that there isn't enough room in their location for burning trash, 100 (50%) of the respondents strongly disagreed. The aforementioned results demonstrated that 119 (59.5%) of respondents strongly agreed, 76 (38%) agreed, and 5 (2.5%) disagreed that the government does not provide facilities for disposing of environmental garbage. It was also discovered that 72 (36%) of respondents agreed, 10 (5%) disagreed, and 118 (59%) strongly agreed that the building plans in their neighborhood forbid room for disposing of trash.

Discussion of Findings

The study's conclusions showed that as environmental human activity continues to rise, so do the sources of solid waste. These sources include things found around the house, stores, markets, shopping malls, supermarkets, factories, hospitals, places of worship, educational facilities, and industrial areas, among others. These results support Nathansa's (2020) argument that humans pose the greatest threat to the ecosystem because of the waste that

DOI: 10.5281/zenodo.13764784

their varied activities produce, which, if improperly managed, could endanger their ability to survive.

The study also showed that different kinds of garbage are regularly produced as a result of human activity. Even though some waste can break down quickly, a large amount of waste is produced that cannot, which creates more environmental problems. According to the respondents, the following materials are classified as soft solid waste: spoiled food, papers, diapers, books, and other materials; hard wastes include coconut shell, iron or metals, plastics, concrete, bottles, wood, Dunlop, mattresses, and polythenes. The aforementioned results are consistent with Ogunsanmi's (2020) confirmation that environmental waste includes both soft wastes and hard, or non-perishable, wastes that pose varying degrees of risk to human life.

Additionally, the study's conclusions showed that various groups of people in the study area dispose of their garbage in different ways. It was discovered that although the government supplied some garbage collectors, patronage was uninspiring. As a result, people wind up disposing of their waste in unacceptable methods, like open burning, burring, landfilling, and dumping it in rivers, drainage systems, and open places.

Additionally, it was discovered that Akure's citizens deal with issues like inadequate waste collector coverage and patronage, sporadic visits by environmental sanitation officers to certain areas of the city to enforce adherence to environmental cleanliness standards, and residents' unwillingness to pay for the collectors' services in areas they cover.

Conclusion

The study examined the environmental challenges resulting from indiscriminate solid waste disposal in Akure Metropolis, Ondo State, Nigeria. From the findings of the study, it was discovered that the disposal of solid waste in the study area was not properly done by many of the residents owing to factors that demand both government intervention as well as the commitment of the residents. The need to give the issue of waste disposal the needed attention is in view of the fact that the sustainability of man depend on the environment. This calls for making every effort to ensure that the environment is in a healthy state at all times.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. There should be aggressive public awareness by the government and Non-Governmental Agencies on the need for everyone to make deliberate efforts to curtail the increasing generation of waste through various human activities.
2. Government through the appropriate agency should provide means of recycling and converting waste of different forms to profitable uses.
3. Acceptable means of waste disposal should be provided for the residents of the study area while compliance to laid down environmental rules should be enforced.
4. The government should ensure that adequate coverage of the metropolis by waste collector is provided and monitored while financial commitment by residents for smooth running of the agency is enforced.

References

1. Abila, B., & Kantola, J. (2013). *Municipal solid waste management problems in Nigeria: Evolving knowledge management solution*. Paper presented at the Proceedings of World Academy of Science, Engineering and Technology.
2. Abila, N. (2014). Managing municipal wastes for energy generation in Nigeria. *Renewable and Sustainable Energy Reviews*, *37*, 182-190.
3. Aladejebi, D.T. (2020). An exploration of the intended, enacted and achieved environmental education programme within the social studies education programme.(Ph.D), University of KwaZulu-Natal, Republic of South Africa.
4. Amokaye, O. G. (2012). Environmental pollution and challenges of environmental governance in Nigeria. *British Journal of Arts and Social Sciences*, *10*(1), 26-41.
5. Federal Environmental Protection Agency FEPA (2016).National guidelines for environmental management system in Nigeria. Abuja, Nigeria: Federal Ministry of Environment.
6. Ifegbesan, A. P., Lawal, M., & Rampedi, I. T. (2017). The Nigeria Teachers Social Studies Training Curriculum and Sustainable Development Goals: A Content Analysis. *Journal of International Social Studies*, *7*(1), 92-122.
7. Nathansa, O. A. (2020), Assessment of threats to the environment of man – An example of man Inhumanity to man. A research paper delivered at The 2020 National Conference of Environmental Health Workers of Nigeria, Owerri, September,
8. Odumosu, T. (2016). Public participation and constitutional impediments to sustainable development in Nigeria *Legal Aspects of Sustainable Development* (pp. 233-247): Springer.
9. Ogunsanmi, O.E (2020), Environmental Epidemiology. 7th edition. African Publishing Press, Enugu. Vol 2 pg 104-8.
10. Ogwueleka, T. C. (2013). Survey of household waste composition and quantities in Abuja, Nigeria. *Resources, Conservation and Recycling*, *77*, 52-60.
11. Oyewale, A. O. (2015). *Effect of a Community-Based Participatory Approach on Environmental Knowledge, Attitude and Practices of Rural Communities' Inhabitatntsin Ibadan*. (PhD), University of Ibadan, Ibadan.

DOI: 10.5281/zenodo.13764784