



Attitude towards Waste Management and Disposal Methods and the Health Status of Cross River State, Nigeria

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Abstract

This study took a cursory look at the attitude of the residents of Calabar South, Nigeria towards waste management and disposal and its effects on the health status of these residents. Descriptive survey design was adopted for the study, the sample for the study comprised of traders, farmers, civil and public servants among others, four hundred respondents were sampled using multistage random sampling technique. The instrument for data collection was a structured questionnaire with four point Likert scale response option. The instrument was personally administered by the researchers and same collected by them. Pearson Product moment Correlation analysis was used to analyze data generated from the field with the instrument. Both null hypotheses tested at 0.05 level of significance and 398 degree of

freedom were significant. The implication of this result is that the residents of Calabar South have very negative attitude towards waste management and disposal, while the second hypothesis tested also shows a significant influence of indiscriminate disposal of waste and the health status of the residents of Calabar South Local Government Area. The study concluded that because of the negative attitude the residents of Calabar South have towards the management and disposal of their waste, it has some significant influence on their health status. It was therefore recommended among others that there should be the urgent re-introduction of the bi-monthly or monthly environmental sanitation, and proper awareness should also be created on the dangers of indiscriminate waste disposal methods adopted by the residents of Calabar South. Above all, government should also provide waste management facilities to enable residents properly dispose of the waste to enhance their health safety.

Keywords: attitude, waste management and disposal, environmental health status, aesthetics value,

Introduction

Waste generation has become a recurring situation in the lives of every human being. Wastes have a myriad of definitions, there are defined as items we don't have use for and needs to be discarded. It can be defined as materials that may have no economic value or any object or materials that the owner no longer considers of sufficient value to retain. Sometimes waste are things we have that the law requires us to discard because they can become harmful. Waste management usually relates to all kinds of planned activities concerned with the proper handling and disposal of waste from the point of generation to the point of final disposal. Waste can be generated during the extraction of raw materials, the processing of raw materials into intermediate and finished products, the consumption of final products, or other human activities including municipal (residential, institution, commercial, agricultural, and special (health care, household hazardous waste, sewage sludge, Sankoh, Yan & Tran, 2013).

Attitude on the other hand has to do with people's disposition or reaction to situation, event or person, attitude could be described as negative or positive, lukewarm or warming, good or bad, welcoming or rebuffing. The way the resident's c urban centers view the waste they generate during their commercial, institutional or domestic activities leaves more to be desired. Human

health has to do with the result of the interaction between humans and the waste deposited on the environment and how these tend to influence their wellbeing. Studies have shown that there are direct connection between human health and waste disposal, most community ailment and diseases are attributed to the quality of environment man lives. Disease conditions like malaria, diarrhea, dysentery, typhoid, cholera among others are seen as being caused by the environmental conditions where man finds himself (Adebiyi, 2006; Mazhindu et al. 2010). Since wholistic health is advocated by World Health Organization (WHO), hygienic method of waste disposal is very important in addressing physical, biological, chemical and socio-cultural factors in the environment that may adversely impact on the health status of resident of Calabar South Local Government Area as well as it environment (Adebiyi, 2006; Prabu, 2009).

Nguyen, et al., (2011) in their study observed that waste can be in any of solid, liquid or gaseous form but they have some hazardous attitude. Solid waste predominantly is any garbage, refuse or rubbish we make in our homes, offices, institution of learning and other places. Most homes dump waste in dumpster provided by government and it over flow because of the human population growth rate of the area. Solid waste can also be converted to liquid waste for disposal. Liquid wastes are often found dumped in water channels, stream, rivers, lagoons and other bodies of water (Nguyen, et al., 2011). In most cases, such liquid waste are not given any form of treatment, hence are deleterious to human health. Waste comes in different sizes and forms; some can be as small as expired drug, an old toothbrush, empty pen or as big or large as body of lorry or school bus; whereas some can be in solid, liquid or gaseous form. Waste generation comes in different forms and types ranging from biodegradable materials to non-biodegradable materials which may be very difficult to get rid of. Domestic waste disposal has been seen to be the most problematic among generated waste, as people have employed the habit of just throwing away waste indiscriminately (Prabu, 2009; Aatamila, et al., 2010).

Eneji, Eneji, Egbe, Ajake, Mgbekem, Eni, Oko & Ojong Okongor-Eno (2010) found that in Nigeria, the deterioration of the urban environment in terms of irresponsibly dumped and accumulated solid waste is most apparent in our growing cities today. The authors further found that the dehumanizing effect of these circumstances in our urban lives and blighted environment have often been cited and noted as contributory causes of the Nigeria urban decay (Sule, 2004; Eneji, et al., 2010; Iheanacho, Eneji, Undeshi, Okongor, Okpiliya & Eneji, 2010). Currently, Nigerians have adopted new life style that is reflected on the pattern of

consumption and the rate at which they now generate waste and there is also attitudinal problem of every average Nigerian in terms of indiscriminate waste disposal. According to Olaniran, Akpan, Ikpeme & Udofia (1995), despite the tremendous amount of waste generated, there is no sustained and organized system for storage, collection, transportation and hygienic disposal of solid waste; hence one of the major environmental health problem facing Nigeria cities is poor solid waste management with its attendant problems (Iheanacho, Eneji, Undeshi, Okongor, Okpiliya & Eneji, 2010).

For instance, in Calabar South Local Government Area of Cross River State, wastes are being dump indiscriminately by the roadside, any available, open drain, litters in open space, papers and polythene bags etc are indiscriminately dumped in any available open space. Waste in the market and residential points and autoscraps are dumped anywhere, anyhow and these apparently affects the aesthetic value of the environment, creating environmental disaster. Waste disposal of open dump or burning causes air and water pollution which underground water supply are also polluted. The dumpsite serve as breeding grounds for disease bearing organism like rats, flies, cockroaches etc (Sule, 2004; Park, 2007; Basavanthapa, 2008; Prabu, 2009; Iheanacho, et al. 2010).

According to Giusti, (2009), waste management practices are not uniform among countries (developed and developing), and sectors (residential, commercial or industrial). Some waste management practices include: waste hierarchy, the 3Rs of waste management, Reduce, Reuse and Recycle, here waste management strategies are classified according to their desirability in terms of waste minimization. The aim of waste hierarchy is to extract the maximum practical benefit from products and to generate the minimum amount of waste. Waste life-cycle begins with design, then proceeds through manufacture, distribution, use and then follows through the waste hierarchy's stages of reuse, recovery, recycling and disposal. Each of the above stages of waste life-cycle offers opportunities for policy intervention, to rethink the need for the product, to redesign to minimize waste potential, to extend its use. The major reason behind product lifecycle is to optimize the use of the world's limited resources by avoiding the unnecessary generation of waste (Xiao, *et al.*, 2007; Yongsu, *et al.*, 2008; Prabu, 2009; Nwanta & Ezenduka, 2010).

Yongsu, et al., (2008) also posited that other methods of waste management are: resources efficiency which reflects the understanding that current, global economic growth and development cannot be sustained with the current production and consumption patterns. Globally, humans are extracting more resources to produce goods than the planet can

replenish. Resource efficiency is the reduction of the environmental impact from the production and consumption of these goods from final raw material extraction to last use and disposal. This process of resource efficiency can address sustainability. The polluter pays principle is a principle where the polluting party pays for the maintenance or treatment of impact caused to the environment from his action. In waste management, the principle generally refers to the requirement for a waste generator to pay for appropriate disposal of the unrecoverable material.

Forastiera, *et al.*, (2011) waste management is a comprehensive, integrated, rational and systematic approach towards the achievement and maintenance of acceptable environmental quality. Freed (2004), observed that modern methods of waste disposal has emerged in response to the recognition of environmental impact of uncontrolled waste disposal. Ekpoh (2009), as simple dumping and burning of waste is no longer fashionable because of the environment and health concern. Basically, there are various methods of waste management these include the following:

Incineration: Is a process where combustible wastes are burned at a high temperature to consume all combustible material. Incineration of waste materials converts the waste into ash, flue gas and heat. In some cases, the heat generated by incineration can be used to generate electric power (Gouveia & do Prado, 2009). **Sanitary Landfill** is to confine the waste, reduce it to the smallest volume and cover the waste with compacted soil to prevent insects, rodents, seagulls and avoid ground water contamination through percolation, (Nabegu, 2010). **Open dumping:** This method is the most common and widely used method of waste disposal in Calabar South Local Government Area. According to Nabegu, (2010) open dumps are unsanitary, unsightly and generally smelly, with foul odor as this attracts rats, insects, flies, snakes etc. Prabu, (2009) posited that this method allows rodent vermin's and reptiles to feed and live in the area; it also pollutes the environment and brings about aesthetics disorder.

Bihon, (2008) observed that another method of waste management is composting, which is a biochemical process in which organic materials such as Lawn clipping, kitchen and domestic waste and other household organic waste decompose to a rich solid like material. It is a process of rapid, partial decomposition of moist solid organic waste by aerobic organism. This technique is popularly used in rural areas by farmers. Prabu, (2009) found that organic material can be recycled as manure for agricultural and landscaping purpose. Composting is aerobic and produces primarily carbon dioxide, and methane which can escape into the atmosphere and can be hazardous, this also contributes to global warming and also produce

obnoxious odor, (Salam, 2010).

Yet another method is recycling, which involves the reprocessing of discarded material into new and useful product. Its purpose is to reduce the amount of waste that must be disposed in landfill or incinerator. These methods involve refurbishing of materials that would otherwise be considered as waste for reuse. The most consumer recycled items include, aluminum, beverage cans, glass, bottles, paper boards etc (Murad & Siwar, 2007).

Hog feeding: Is a method of refuse disposal by which institutions like hotels, restaurants, military depots, boarding schools, food processing and industries can conveniently dispose their garbage as food for animals, (Gogra, et al., 2010). Pulverization: is a process where wastes (solid) are heated, dried and fetched into a grinder where they are grinded to reduce the volume of the waste. This method requires an associated method to ensure complete disposal of waste.

Other methods include pyrolysis which is a process whereby all combustible constituents of waste are heated in a special retort like chamber known as a pyrolysis reactor at 600⁰c to 1000⁰c in a low oxygen or an oxygen free environment (Modebe, Onyeonoro, Ezeama, Ogbuagu & Agam, 2009), using pyrolysis to extract fuel from end-of-life plastic is a second-best option after recycling, this method is environmentally preferable to landfill, and can help reduce dependency on foreign fossil fuels and geoextraction, (Modebe, et al. 2009). Plasma gasification: Involves waste molecular bonds being broken down as a result of the intense heat in the vessels and the elemental component. Gasification reactors operate at negative pressure and recover both gaseous and solid resources, (Modebe, et al. 2009).

Waste to energy (Resource Recovery): Involves the process of converting non-recyclable waste items into useable heat, electricity, or fuel through a variety of processes. Energy Recovery includes any technique of minimizing the input of energy from one sub-system of the overall system with another. An energy recovery system will close this energy cycle to prevent the input power from being released back to nature and rather be used in other forms of desired work. There is a large potential for energy recovery in compact industries and utilities. It dramatically reduces world energy consumption, (Adesina, 2007). Waste Minimization involves redesigning products and/or changing societal patterns concerning consumption and production of waste generation, to prevent the creation of waste, (Davidson, 2011). It can protect the environment and provide good economic and business practices, (Bihon, 2008).

Environmental health is concerned with all aspects of the natural and built environment that may affect human health. Environmental health has been defined by the World Health Organization (WHO) (1999) as those aspects of the human health and disease that are determined by factors in the environment. It also refers to the theory and practice of maintaining an environment that can potentially affect human health and wellbeing. Environmental health as used by the WHO Regional office for Europe, include both the direct pathological effects of chemicals, radiation and some biological agents, and the effects (often indirect) on health and well being of the broad physical, psychological, social and cultural environment, which includes housing, urban development, land use and transport, (Bihon, 2008).

In their study, Bihon, (2008) found that environmental health concern includes:

Air quality: including both ambient outdoor air and indoor air quality, which also comprises concerns about environmental infractions like tobacco smoke, climate change and its effect on health, disaster preparedness and response, food safety, including agriculture, transportation, food processing, wholesale and retail distribution and sale. The authors found that environmental air quality affect human health through adverse health conditions affecting the gastrointestinal linings, respiratory tract diseases and other ill health (Van Rooijen & Tadesse, 2009; Tessema, 2010). Lidgi & Nigussie, (2007) found that hazardous materials management, including hazardous waste management, contaminated site remediation, the prevention of leaks from underground storage tanks and the prevention of hazardous materials releases to the environment and response to emergency situations resulting from such releases.

Tessema, (2010) housing, including substandard housing abatement and the inspection of jails and prisons, childhood lead poisoning prevention. Other problems creating waste management include land use planning, including sustainable cities and smart growth, liquid waste disposal, including municipal waste water treatment plants and on-site waste water disposal systems, such as septic tank systems and chemical toilets. Others include medical waste management and disposal, vector control, including the control of mosquitoes, rodents, flies, cockroaches and other animals that may transmit pathogens. The presence of all these affect human health and wellbeing, (Lidgi & Nigussie, 2007). An understanding of the ebb and flow of individuals and collective attitudes vis-à-vis specific issues and the mind set associated with various options is very crucial, that is most clearly demonstrated in environmental affairs (Gondo, Trynos, Elias, Ingwani & Makhanda, 2010)

UN-Habitat (2006) defined attitude as a mental state of readiness organized through

experience which exerts a directive or dynamic influence upon the individual's with which it is related. Bihon, (2008) defines attitude as the predisposition or a tendency to react specifically toward an object, situation or value, usually accompanied by intimate feeling and emotion. Attitude is also seen as the stick which tends to control the rader of knowledge and practice. Attitude influences behavior and functions to facilitate the achievement of goals (Alem, 2007). This definition signifies that individuals have different opinions to situations.

Most people have non-chalant attitude toward waste disposal, this kind of person could be perceived as people who litters the environment like no man's business i.e. without regard or respect to the environment. People don't consider the need to appraise or talk to neighbor about changing their negative attitude toward waste disposal. For instance, if an individual is seen littering papers or any form of waste anywhere it is incumbent to inform the person but not by exhibiting any form of annoyance or correction to such situation (Alem, 2007, Mazhindu, Trynos & Gondo 2010).

Resident do not consider living in a clean environment as essential aspect of human existence, hence they cannot keep a clean environment. They play passive role in sanitation activities and refuse to co-operate with others in cleaning up residential surroundings because of their negative attitude. Some educated and enlightened Calabar south residents also participate in these misconduct. According to Chekole, (2006) the main reason for the incessant growth of waste volume in our urban centers is as a result of the ignorance of some residents towards the impact of indiscriminate dumping of refuse and the care free attitude of most residents who knows what should be done but they careless about it.

Nigeria suffers a higher total burden of disease than their counterparts in other African countries, with about 25% of the total illnesses attributed to malaria, diarrheal diseases, and respiratory infections. Environments, health and poverty overlap extensively in Nigeria because many of the widespread and debilitating diseases particularly those that affect the poor disproportionately, stem from environmental conditions or charges (Ivi 2014). Solid waste, waste water and air contaminants from domestic and industrial sources affect very many people in Nigeria, particularly along coastlines (The Niger Delta region) in the largest cities, and in mining area, (Ivi 2014).

The lack of adequate waste collection and disposal systems in Nigeria cause public (environmental) health problems resulting in disease, which aggravates poverty and leads to negative consequences such as low income due to illness, increased spending on health care, and the deprivation of the poor's capacity to live in a safer environment, (Prabu, 2009). Cases

of diseases outbreaks due to waste negligence have been observed beyond Nigeria countries. Pneumonic plague broke out in the Surat in the state of Gujarat in India (Ghosh, 2001). To control the plague, the Surat municipal corporation (SMC) launched a short term action plan which also included the private sector comprising collection and disposal of garbage, removal of carcasses, anti-rodent operation and spraying of DDT on pools of stagnant water, (Ivi 2014).

Inadequate municipal waste management provides an important input to the rational development and evaluation of health and other sector policies which directly manage or influence the determination of health. Many important environmental health issues fall through the crack of development agencies, because environment and health are both cross-sectoral, and institutions commonly lack clear directives for the multi-sectoral dimension of their work (Alem, 2007; Bihon, 2008; Mazhindu, et al. 2010). Waste disposal method such as open dumping, burning of waste, dumping at sea, burying, composting, unsanitary landfill have effect on the environmental health status of Calabar south which includes:

- Increase in the concentration of pathogenic organisms in the environment.
- It contaminates land and soil which may affect crop yield and production.
- Destroy the aesthetics of the physical environment.
- Organic matter serves as food for bacteria leading oxygen depletion in aquatic environment.
- Pollution of surface and underground water supply.
- Contribute to air pollution

Some of these heaps of waste on the street and gutters block flow of water thereby contributing to the problem of flood disaster in some part of the Area. In Calabar South, the volume of waste generated as a result of increase rate of human population, urbanization and economic growth has overwhelmed the urban administrator's capacity to plan for waste collection and disposal. Thus, it has become breeding grounds for vectors and infectious disease causing organisms (Alem, 2007; Bihon, 2008; Mazhindu, et al. 2010).

The present crises of unhealthy living are as a result of improper waste disposal and management options adopted by residents. Calabar south is constantly faced with adverse aesthetic condition of the environment due to these indiscriminate waste dump. Its blocked motor ways resulting to traffic jams, it causes air and water pollution, it causes flood during

rainy season and all these constitute an eyesore to both inhabitants and visitors and causes environmental health hazard.

To address the objectives of this study, two research questions were posed for the study this:

- (1) What are the attitude of Calabar South Residents toward waste disposal and management?
- (2) How does a waste disposal and management method affect the environmental health status of Calabar South Residents?

While two commensurate hypotheses were also formulated for the study thus:

- (1) There is no significant relationship between people's attitude and waste management in Calabar South Local Government Area.
- (2) There is no significant relationship between waste management and environmental health status of residents of Calabar South Local Government Area.

Methodology

The research design adopted for this study is the descriptive research method. The study was carried out in Calabar South Local Government Area, Cross River State, Nigeria. It is situated between Longitude $8^{\circ}15'$ and $8^{\circ}25'$ East and Latitude $4^{\circ}54'$ and $4^{\circ}58'$ North of the equator. The study sites are Watt market, Mbukpa market, Goldie market, Goldie street, Mount Zion street, , Mayne Avenue, Mbukpa road, Webber Street, Inyang Street and Yellow-Duke Street, all in Calabar South. The population of the study is made up of traders, civil and public servants, farmers, students and other inhabitants of Calabar South Local Government Area, the sample selected for the study comprised of 400 respondents from 10 streets in Calabar south. Multi-stage Random sampling technique was used to select the sample for the study. Four hundred (400) respondents were selected from among Traders – 120, Farmers – 60, student 100, civil servant -80, company workers 20, others – 20. The instrument for data collection is a structured questionnaire. The instrument was personally administered by the researchers and the return rate of 100% was achieved. Mean deviation and Pearson Product-Moment Correlation Coefficient were the statistical tools used for data analysis.

Result and Discussion

The study looked at the impact of waste disposal methods on environmental health status of residents of Calabar South Local Government of Cross River State, Nigeria. The means and standard deviation of the major variables are presented in Table 1.

Table 1: Mean and standard deviations of research variables

Research variables	X	SD	N
Attitude of residents	11.40	3.743	400
Waste management and Disposal methods	12.04	2.806	400
Environmental Health status	13.63	3.195	400

There is no significant relationship between people's attitude and waste management and disposal in Calabar South Local Government Area. Pearson Product Moment Correlation Analysis was used for data analysis; the result is presented in Table 2.

TABLE 2: Pearson product moment correlation Analysis of the relationship between people's attitude and waste disposal management in Calabar South LGA, n=400

Variables	X	SD	r	Sig. (2-tailed)
People's attitude	11.40	3.74		
			- 0.73**	.000
Waste disposal management	11.93	3.37		

*Significant at .05, r-calculated = -0.73, r-critical = 0.136 df = 398

The result of the analysis presented on Table 2 showed that there is a significant negative relationship between people's attitude and waste disposal management ($r = -0.73$; $p < .05$). Since the calculated (r) of -0.73 is higher than the critical r -value of 0.136 at $.05$ level of significance and 398 degree of freedom, the null hypothesis which states that, there is no significant relationship between people's attitude and waste management in Calabar South Local Government Area was rejected, whereas the alternate hypothesis which stated that there is a significant relationship between people's attitude and waste disposal and management was rather accepted. Based on the result of the analysis with a negative correlation, the implication of the result therefore is that, the people's attitude to waste disposal and management is negatively correlated. The people have a negative attitude towards waste management and disposal in Calabar south.

The second hypothesis stated that there is no significant relationship between waste management and disposal methods and environmental health status of residents of Calabar South Local Government Area, the result of the analysis is shown on table 3.

TABLE 3: Pearson Product Moment Correlation Analysis of the relationship between waste management and disposal and environment health status in Calabar South LGA n=400

Variables	X	SD	r	Sig. (2-tailed)
Waste management and disposal methods	11.93	3.37		
			0.44**	.000
Environment health status	9.66	4.21		

*Significant at .05, r-calculated = 0.44, r-critical = 0.136 df = 398

The result of the analysis presented in Table 3 showed that there is a significant positive relationship between waste management and disposal methods and environmental health status of residents of Calabar South Local Government Area ($r = 0.44$; $p < .05$). Because the calculated (r) of 0.44 is higher than the critical r -value of 0.136 at .05 level of significance and 398 degree of freedom, the null hypothesis which stated that, there is no significant relationship between waste management and environmental health status of residents of Calabar South Local Government Area was rejected, while the alternate hypothesis which stated that there is a significant relationship between waste management and disposal methods and the environmental health status of the residents of Calabar South Local Government Area is accepted. The result was revealed to be statistically significant, since the calculated r -value is greater than the critical r -value, meaning that waste management directly relates to environmental health status of the residents of Calabar South Local Government Area of Cross River State, Nigeria.

From the analysis, the result of the hypothesis revealed that, there is a significant negative relationship between people's attitude and waste management and disposal methods of residents of Calabar South Local Government Area was rejected. Implying that, the people's attitude towards waste management and disposal methods are negatively related. This is in line with Stahr (1992) findings that the main reason for the incessant growth in the amount of waste volume in our urban centers is as a result of the ignorance of residents towards the impact of incriminate dumping of refuse and the carefree attitude of most residents who knows what should be done, but they are careless about it, indicating that people have very poor attitude towards waste management. Observation also confirmed that the most common

means of waste disposal in Calabar South is open dumping which is reflection of their attitude towards waste management. By implication therefore, a change in the attitude of resident towards waste disposal in the area will bring about a better waste management plan.

The result of analysis of the hypothesis showed that there is a significant relationship between waste disposal and environment health status, the null hypothesis which states that, there is no significant relationship between waste disposal and environmental health status of Calabar South Local Government Area was rejected. This result implies that when waste is properly managed, the environment will be better. The analysis of the respondents' information showed that, majority of the residents favor a better strategy of waste management as it will improve the environment status of the area.

In line with this finding, WHO (1999) noted that environmental health are those aspects of human health and diseases that are determined by factors in the environment. Thus, the management of the environment is the same as the management of environmental health of a place. This gives rise to the air quality, safe drinking water, toxic chemicals etc. This finding is in line with what WHO, (1999) cited in Novice, (1999) held that environmental health status of any area where humans occupy include both the direct pathological effects of chemicals, radiation and some biological agents, and the effects derived from wastes (often indirect) on human health and well being of the broad physical, psychological, social and cultural environment. This include housing, urban development, land use and transport, (Novice, 1999). Waste in whatever form it is classified, be it liquid waste disposal, including municipal waste water treatment plants, air quality, hazardous materials, substandard housing abatement, land use planning, including unsustainable cities and smart growth, noise pollution, solid waste etc, have direct and indirect health implications. Little wonder then that there are a lot of health complications as a result of human environmental conditions whose diagnosis and treatments are yet to be identified by the medical profession.

It is in view of findings like this that Bruce, (2007) discovered that most people have very negative and non-chalant attitude towards waste management and disposal, the authors further observed that this kind of persons could be perceived as people who litter the environment without regard or respect to the environment. People don't consider the need to appraise or talk to neighbors about changing their negative attitude toward waste management and disposal. For instance, if an individual is seen littering papers or any form of waste anywhere, it is incumbent to inform the person, but not by exhibiting any form of annoyance or rather with respectful and caring correction to such situation.

This study also confirmed the finding of Davidson, (2011) who concluded that resident do not consider living in a clean environment as essential aspect of human existence, hence, they cannot keep a clean environment. They play passive role in sanitation activities and refuse to co-operate with others in cleaning up residential surroundings because of their negative attitude. Some educated and enlightened Calabar south residents also participate in these misconducts.

USEPA, (2012) had earlier discussed the impact of waste management and disposal on human health and the aesthetic beauty of the environment, the discourse has shown that when waste are properly managed and disposed, what is left might not necessarily be injurious to human health and well being of the scenic condition of the environment. The author advocated for a concerted effort from community members and residents of any particular region to facilitate their sanitation programs and processes, this author concluded that it will be beneficial to the residents in terms of their health and environmental quality and ambient air around them.

Conclusion

The findings of this study in general revealed that the residents of Calabar south and those of other parts of Calabar have very negative attitude toward waste management and disposal, because of this negative attitude towards waste disposal and management, the waste generated and indiscriminately disposed has a significant effect on the health status of the residents of Calabar South Local Government Area. The study therefore concluded that environmental sanitation and cleanliness attitude must be re-introduced for the proper management of waste in Calabar south, since the people have very negative attitude towards waste management and disposal. If this is done, the environmental health status of residents of Calabar South can then be significantly improved by guaranteeing their longevity and healthy living.

Recommendations

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

1. That government should strengthen existing environmental laws to protect the environment.
2. Modern means of waste management and disposal equipments should be introduced in the area to stop indiscriminate dumping of refuse which is the current practice in the area.

3. All relevant authorities concerned with waste disposal in the area should be carried along to plan more effective waste management strategies in the area.
4. The Calabar Urban Development Authority (CUDA) should be properly empowered and reposition to meet the mandate of their calling by providing functional waste disposal vans, personnel's, and motivations to enable them live up to their responsibilities.
5. There should be the urgent re-introduction of monthly or biweekly environmental sanitation, while environmental health officers should avoid collecting bribes and do their work the proper way.

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