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RESIDENCE AWARENESS OF IMPROPER DISPOSAL OF WASTE AT DUMP SITE: A CASE STUDY OF NEW IGANDO COMMUNITY

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Residence Awareness of Improper Disposal of Waste at dump site: A case study of New Igando community

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Article History

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Abstract

Purpose: The purpose of the study is to investigate the level of residence awareness of improper disposal of waste at dumpsite in Igando Community.

Methodology: This study is a descriptive survey design type because it is designed to determine the nature of a situation in this case. The data was collected using questionnaire.

Findings: A greater percentage of the respondents understand the simple definition term for waste which was quiet encouraging. It shows that the respondents do not know the likely cause of the effects of improper waste disposal. Majority of the respondents indicated environmental pollution as the cause of the effect of improper waste management. The result of improper disposal of waste results to contamination of underground water, retarded growth in plant and animal, it attracts mosquitoes which cause malaria.

Unique Contribution to Theory, Practice and Policy: The study recommended that Upgrading of Solous landfill is highly recommended so as to guarantee the integrity of the groundwater quality in the vicinity. Markets for recycled materials need to be encouraged. A reliable waste collection service is needed and waste collection vehicles need to be appropriate to local conditions.

Keywords: *Waste, Dumpsite, Residence Awareness*

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INTRODUCTION

Waste management is important and crucial to human. It is actually the collection, storage and processing, disposing and recycling of waste products. These waste products are mainly of household waste, Industrial waste, nuclear and power plants and so on.

The problem of improper waste management is on the rise from day to day. If the waste products are not managed properly, it will cause a lot of bad influences to humans. The effects of improper waste management to humans are contamination of soil, flood, extinction of plants and animals, air contamination and depletion of ozone layer.

Firstly, the improper waste management will bring up contamination of soil and that will bring harm to humans. Normally waste products that can be recycled will be buried underground and this could contaminate the soil surrounding it. Carcinogen is a substance that causes the breed of tumors or cancerous cell in human body. DEHA, a type of carcinogen will be released from the breaking down of plastic water bottles. This type of chemical can cause weight loss, liver problem and reproductive issues to humans.

Furthermore, it can pass through the soil and cause contamination that can result in damage to the plant and animal cell as well as the sources of water. Ink, that is used in newspaper or paper add toxicity to the soil as well. If the waste is not contained correctly in a landfill, it will then contaminate the ground surrounding it. The polluted water will contain harmful or toxic substances that will cause health problems to humans such as stomach ache and so on. So, this contamination will cause health risk to humans.

Flood is also one of the results from improper waste management. This is mainly caused by those trash or waste products that have been thrown by people into the river or the waste products that have been excreted from those industries without having those waste processed in a proper way, It will then cause the river depth to be low.

When disposing of garbage that contains harmful chemicals such as bleach, acid or oil it is important that it is disposed of in approved containers and labeled correctly. Paper, plastics and other materials that are burned from improper waste management result to air contamination. Over time the chemicals can build up in ozone layer if they contain toxic chemicals like dioxin.

Waste and waste management are a big challenge in Nigeria. Municipal solid waste management has emerged as one of the greatest challenges facing environmental protection agencies in developing countries.

Solid waste management is characterized by inefficient collection methods, insufficient coverage of the collection system and improper disposal. The waste density ranged from 280 to 370kg/m^3 and the waste generated rates ranged from 0.44 to 0.66kg/capita/day. The common constraints faced by environmental agencies include lack of institutional arrangement, insufficient financial resources, and absence of bylaws and standards, inflexible work schedules, insufficient information on quantity and composition of waste, and inappropriate technology.

Waste is an inevitable product of society; managing this waste more effectively is a need that society has to address. The Brundtland report ‘Our Common Future’ (WCED, 1987) clearly spelled out sustainable development would only be achieved if society in general, and industry in particular, learned to produced more goods and services with less of the world’s resources (including energy) and less pollution and waste (White *et al.*, 1995).

Globally, the poor solid waste management has been implicated in the recent episodes of climate change and Nigeria is not excluded. The latest flooding incidents in Ibadan, Lagos, Sokoto, Kaduna, Kebbi, Ogun, and other parts of the country that led to devastation of lives and property were consequence of solid waste mismanagement. While open dumping and stream dumping are commonly practiced all over the country, attempts by Federal Government to ensure other viable methods for hygienic disposal, through waste reduction, reuse and recycling, by legislation have not been widely accepted yet. This is due to lack of awareness, required knowledge and skills for proper management. Waste recycling regularly carried out by informal sector and scavengers who, in most cases, use crude methods without adequate regards to the safety of their health and the environment. Hence, the management of urban solid waste constitutes one of the most immediate and serious environmental problems facing government in Nigeria. In the last two decades, there has been a renewed interest in converting the organic wastes into organic fertilizers and other recyclable portion of waste like plastics and metals into useful materials for our local industries. Capacity building is an important area of solid waste management, environmental protection, resources conservation and income generation is the strategy in ensuring sustainable solution to the ever increasing solid waste management problems, unemployment and other exploitation of resources and persistent poverty in the country. This shift in solid waste management away from an emphasis on disposal toward one of the waste prevention and reuse is emphasized in what is called "Waste –to wealth" or Trash – to Treasure or "Waste to value added products". This change in attitude to waste requires special skills.

Statement of the Problem

The non challant attitude of the residents towards improper waste disposal has resulted to a low socio- economic living expectant in the community.

During site visitation to the location, it was discovered that many houses no longer make use of the underground water, houses were abandoned due to the fact that many house owners and occupants had re-located out of the community leaving the houses behind. The Air in the environment is no longer conducive because the natural air is contaminated.

Some of the residents' uses water treated plant but still cannot make use of the water. Also, it has caused the extinction of plant and animal from this location.

Research Objectives

The primary aim of this study is to examine the awareness of improper waste disposal by residents, while the specific objectives are;

i. To investigate the level of knowledge the residents of the community have on the effect of improper waste disposal.

ii. To identify the extent to which improper disposal of waste would have on groundwater (physical change).

iii. To examine the level of hazard caused to the environment by the effects of improper waste disposal.

Research Hypotheses

Hypotheses I

H_0 : The residence of new Igando Community does not have significant knowledge about the effect of the improper waste disposal

H_A: The residences of new Igando community have significant knowledge about the effect of the improper waste disposal

Hypotheses II

H_0: The improper disposal of waste will have significant effect on the physical properties of groundwater.

H_A: The improper disposal of waste will not have significant effect on the physical properties of groundwater.

Hypotheses III

H_0: The residents are not concerned about the damage of the effects of improper waste disposal could cause to them.

H_A: The residents are concerned about the damage of the effects improper waste disposal could cause to them

LITERATURE REVIIEW

Waste Management

Waste is regarded as any environmental pollutant that is caused by human induced activities or through natural phenomena. This condition often upset the natural balance of the ecosystem. Waste irrespective of its source may be categorized as either organic or inorganic out-valued material to the generator, which is commonly disposed of.

The generation of waste material is known as the waste stream. This includes the entire variety of refuse generated during domestic, industrial, construction and commercial processes.

It is fifty decades now when Nigeria became a sovereign nation. Despite this, the general concept about the importance of environmental protection through awareness and orientation. Nigeria being a developing nation has 75 percent of its population not able to willingly draw a connection between the need to protect the environment and what each individual can do to save it. When people are asked to sort household refuse for recycling and proper disposal onto farms or pay a fee to discharge it from their homes and streets, endless excuses often results. The improper disposal and treatment of solid waste is one of the greatest environmental treat of the 21st Century. The impact of these wastes on soil and groundwater quality can be devastating, depending on the composition of the heterogeneous mixture and method of disposal. The generation of waste is a function of human activities; therefore, proper waste disposal has become steadily imperative with no compromise if only a healthy society and generation is to be achieved.

Municipal refuse is the litter originating from urban areas; this comprise of waste due to domestic, commercial, institutional, construction, agricultural or mining activities.

Indiscriminate disposal of wastes naturally proliferate the tendency of attracting flies, rodents, cats, dogs, mosquitoes, unpleasant smell, as well as creation of unsanitary conditions and other aesthetic problems resulting from open dumpsites. Agricultural soils exposed to incessant

deposition of solid waste are liable to become contaminated due to influx of heavy metals, which subsequently through intrusion intercept and affect the groundwater quality.

Goal 7 of the 8 Millennium Development Goals is to 'ensure environmental sustainability' (UNESCO, 2011). A very important issue that is crucial in realizing this goal is that of the need to develop and adopt effective strategies for solid waste management (SWM) and more especially in densely populated urban areas. The main purpose of SWM is to provide hygienic, efficient and economic collection, transportation, treatment and/or disposal of solid wastes, without polluting the atmosphere, soil or water resources. The environmental and public health risks that arise due to inadequate waste disposal have been well documented: surface and groundwater are contaminated by leachate; the soil by direct waste contact or leachate; the air by burning of waste; the spread of diseases by different vectors such as birds, insects and rodents; and the uncontrolled release of methane from anaerobic waste decomposition (Schertenleib & Meyer, 1992).

Recent high levels of economic growth and consumption have led to increasing pressures on the environment in New Igando town. On closer observation it was observed that a dumpsite is located at the entrance of the community and large percentage of residents ignorantly dispose their waste carelessly. The huge waste that dumped almost in every street corner is a clear indication that there is a lack of proper and efficient SWM.

Classification of Waste

Waste can be classified by physical state (solid, liquid, gaseous). Solid waste can be further classified by original use (packaging waste, food waste, etc); by material (glass, paper, etc); by physical properties (combustible, compostable, recyclable); by origin (household, commercial, agricultural, industrial, etc) or by safety level (hazardous, non hazardous) (White *et al.*, 1995).

Figure 1 provides a structure for classifying waste:

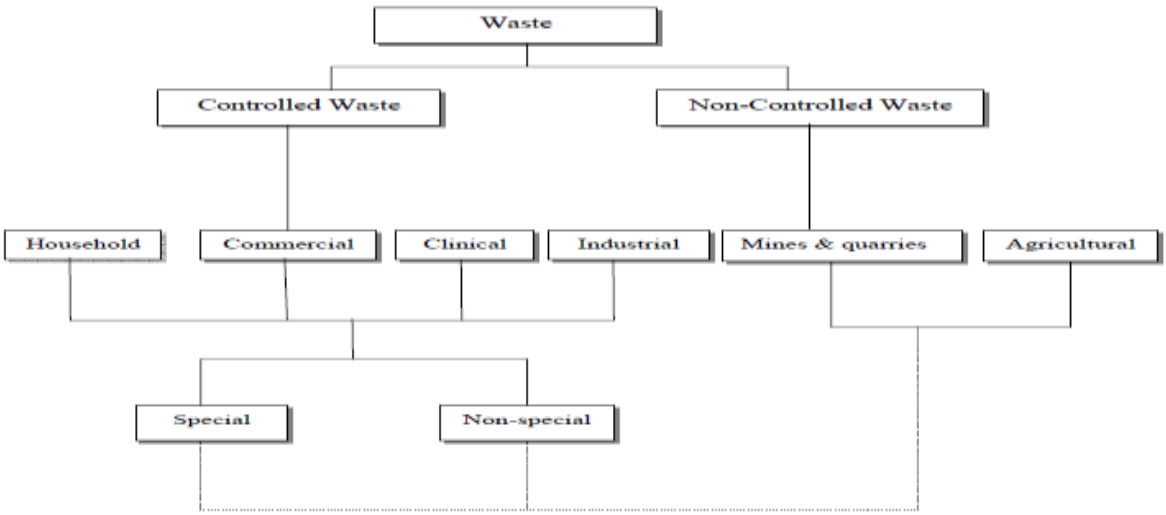

Figure 1: Classification of Waste (Gilmour and Manns, 2001)

Types of Waste

Domestic:

- Coming from private homes i.e waste from preparation and cooking of food and market refuse as well as those from handling, storage and sale of meat e.g blood, bones e.t.c.
- Bulky waste includes discarded large motor parts, tyres, refrigerators, furniture, abandoned vehicles, large crates and other large appliances.
- Foliage or garden waste is often seasonal
- Bulky waste and foliage are usually not collected with normal domestic waste.

Municipal:

Street waste arises from street sweeping. Where collection of domestic waste is poor, street waste will include a large portion of domestic wastes. Street wastes may include spilled loads and dead animals.

- Market wastes are generated in large quantities
- Drain Waste from open drains are wet and more offensive than street waste.

Commercial:

- Shop wastes may include large amounts of spoiled food and Packaging.
- Office wastes contain large quantities of recyclable paper.
- Hotel and restaurants produce large quantities of food waste which can be fed to domestic animals/livestock.

Institutional:

- Hospitals generate both domestic type waste (from kitchens, offices etc) and more hazardous pathological waste (surgical waste infected dressings, syringes etc) which must be disposed of with great care.
- Barracks e.t.c Schools
- Confidential documents need special disposal such as shredding to ensure that unauthorized people cannot see them. Drugs, and condemned food also require special controls.

Industry:

Wastes may pose many problems:

- Mining and Mineral processing vast quantities of waste which may cause problems through tip instability and water pollution.

Manufacturing wastes can provide:

- Useful sources of feedstock for recycling industries
- Construction wastes can be used for building temporary tip roads and for cover materials.

Food wastes may pose special Health Problem:

- Chemical wastes can pollute water sources, if not properly disposal of. They may be also be toxic (Heavy metal, ingeston, inhalation, skin contact) and react together to stand fires or produce dangerous products.

Empirical Review

Solid waste includes any garbage, refuse, sludge and items that that have lost its original value, hence discarded or getting ready to be discarded (United State Environmental Protection Agency, USEPA, 2000). Items considered as waste are household rubbish, sewage sludge, from manufacturing processes, packaging materials, discarded cars, old electronics, garden waste, old paint containers etc. (Salvato, 1992).

The move from landfill-based to resource-based waste management systems requires a greater knowledge of the composition of municipal solid waste (Stephen, 2006). Solid waste in Nigeria is generally composed of three categories i.e. biodegradable such as food waste, animal waste, leaves, grass, straws, and wood. Non-biodegradable are plastic, rubber, textile waste, metals, glass and recyclables such as paper, cardboard, rags and plastics. Solid waste generation and management differ considerably in cities of developed countries to that of developing cities. Reason for this may be attributed to the cost of purchasing and maintaining haulage trucks, bunkers and waste bins is pretty high.

One of the consequences of the global urbanization is increasing volumes of solid waste generation. According to estimates about 1.3 billion metric tons of municipal solid waste was generated globally in 1990 (Beede & Bloom, 1995). At present, the yearly generation of solid waste equals to 1.6 billion metric tons approximately (United State Environmental Protection Agency USEPA). A considerable amount of money goes into managing such huge volumes of solid waste. Asian countries alone spent about US$25 billion on solid waste management per year in the early 1990s; the figure is expected to rise to around US$50 billion by 2025 (Hoornweg and Thomas, 1999). These figures suggest that solid waste management has become a large, complex and costly service. Solid Waste Management is a discipline associated with the control of generation, storage, collection, transfer, processing and disposal of Municipal Solid Waste.

Municipal solid waste, in a way is governed by the best principles of public health, economics, engineering, aesthetics and other environmental considerations (Daskalopoulos et al., 1999). The municipalities in developing countries typically lack the financial resources and skills needed to cope with this crisis. Several countries have realized that the way they manage their solid wastes does not satisfy the objectives of sustainable development (Abu Qdais, 2006). This raises the important issue of how to deliver quality service in the face of the financial and skill constraints of the public sector. (Mansoor and Azam, 2006).

The developing world can expect a significant increase in its waste stream. In India, reuse and recycling was the trend, but systems are now stretched beyond their carrying capacities. Almitra H. Patel claims that up to 15 years ago the bulk of city waste was carted to farms for composting. However, the influx of plastics, particularly thin-film carrier bags, which precludes germination of plants and the entry of rainwater into the soil, has been a major deterrent to the rural use of municipal waste, which now ends up in open dumps outside cities and towns.

Patel asserts that plastic is the scourge in India's landscapes; wind-blown thin-film carrier bags are visible everywhere. They contribute to flooding where they block drains, and kill livestock

that forage in the streets eating garbage-filled plastic bags that remain undigested. Following globalization, Indian cities have been inundated with packaging that is recyclable, but is not in practice recycled; consequently, cash strapped municipalities are battling with large heaps of nuisance wastes, Patel added.

South Africa, a country slowly emerging from a period of non sustainable and inequitable development, the likes of which has not only had significant economic and social impacts, but has also resulted in serious environmental degradation, its National Waste Management strategy (NWMS) and Action Plans were finalized in 1999. In September 2001, representatives of the national, provincial and local governments, civil society and the business community convened at Polokwane-the Northern Province for discussions over the existing waste management situation in South Africa. Following this, a joint declaration was delivered with specific aims to implement a waste management system that contributes to sustainable development and safeguarding livelihoods, by harnessing the energy and commitment of citizens to waste reduction. The joint declaration also proposed the reduction of waste generation by 50 per cent and disposal by 25 per cent respectively by 2012 as well as developing a plan for zero waste by 2022. Further reference was made to reiterate a commitment to the Integrated Pollution and Waste Management (IPWM) Policy, the NWMS and the principles of waste minimization, reuse and recycling for sustainable development.

A World Bank report states that 19,000 tons of hazardous wastes are produced annually. The report further states that 99 percent of this figure is produced by six industrial sectors, namely; steel, metal fabrication, textiles, pharmaceuticals, tanning, and oil refining (Anthony, 2000). There is an increase in the nation's health problems and increase in the incidence of typhoid fever.

Nigeria and South Africa are spearheading the New Partnership for African Development (NEPAD); the initiatives proposed might be great for Africa if acted upon. However, for many living in Lagos and Aba whereby waste disposal remains a contentious issue, refuse is thrown onto roadways, spread on pedestrian walkways or even dumped into gutters. The problem becomes compounded during the rainy season; water, no longer flowing freely along the gutters it remains stagnant, creating the necessary conditions for mosquitoes and vector borne diseases like malaria. The situation became so unpleasing that a pragmatist approach was adopted requiring residents to spend the last Saturday of the month for cleaning up refuse placed on the streets

Atiemo *et al* 2012., observed that 20 t0 50 million tonnes of waste electronic equipments are generated worldwide, which pose potential threat to human and the environment. They are of the view that electronic waste and electronic equipments can contain many different substances, some of which are toxic whereas others have a relatively high market value when extracted.

They also stated that inadequate disposal and poor recycling practices in the recovery of precious metals such as gold, copper and silver contribute to the release of toxic metals into the environment which can pose health risk to exposed individual. The generation and disposal of solid wastes in the world is a problem that continues to grow with urbanization, development of industrialization and growing population (Butu and Bichi, 2013). Longe and Balogun (2010) observed that groundwater pollution in Nigeria is mainly due to the process of industrialized urbanization that has progressively developed over time without regard for environmental consequences. They are of the opinion that increased in population, industrialization and

technological revolution have resulted in the increase in waste generation with resultant production of wastes which have become too complex to manage and control. Thus, Uzoigwe *et al* (2013) pointed out that the impact of solid wastes in recent times on groundwater and other water sources has attracted a lot of attention because of its overwhelming environmental significance.

The problem of solid waste disposal in urban centres in developing countries is a major concern to government and this problem becomes worrisome in Nigeria where municipal waste generation is always on the increase because of increase in population pressure and socioeconomic factors (Omole and Alakinde, 2013). Kenneth and Huie (1983) classified solid waste principally as garbage, ashes and rubbish. The garbage includes organic matter resulting from preparation and consumption of food. Ashes include remains of cooking and heating process and

rubbish may be papers, rags, wood, leaves and other non biodegradable materials such as glass, metal and polythene materials. Sharma P.D. (2009) classified solid waste as garbage which include man made waste from food, rubbish comprised of non biodegradable or non decomposable waste either combustible (such as papers, wood and cloths) or non combustible (such as metals, glass, ceramics and polythene). Ashes comprised of residues of combustible solid fuels, large wastes are made up of demolition and construction debris and trees, dead animals and finally sewage- treatment comprised of materials retained on sewage treatment

screen, settled solid and biomass. The current state of plastic bag waste pollution in Nigeria is alarming. Several environmental impacts including blockage of waterways and choking of animals, soils and mosaic litters of pure water sachet in the landscape requires urgent attention (Ogwo *et al.*, 2013).

In most cities of Nigeria refuse disposal and storm water drainage are inefficient, refuse are disposed indiscriminately and there are inadequate defined channels for storm water drainage. It is very common to find the drainage lines being filled up with refuse after rainfall. The refuse from these roadside dumps are very good pollutants of the stream, groundwater and entire the environment.

Conceptual Framework

Solid waste management is the process of collecting, storing, treatment and disposal of solid wastes in such a way that they are harmless to humans, plants, animals, the ecology and the environment generally. Solid waste can be defined as "*any substance or object in solid form which the holder discards or intends to discard*" (Waste Framework Directive 75/442/EEC, 1975, Article 1 (a)). The 'holder' can either be the producer of the waste or be in possession of the waste (Williams, 2005). Waste, however, is very subjective; one person may deem an item to be waste whilst another might see it as a resource (Williams, 2005). The way solid waste is managed for different types of sectors is important as the nature of each industry or sector varies. The dynamic nature of consumer/end user products, packaging materials, environmental regulations and public attitudes has made the development of solid waste management strategies an increasingly complex task (Sakai *et al*, 1996).

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Figure 2: Waste hierarchy

Theoretical Framework

Theoretical framework of this research is focused on the community, the action of the government in order to manage the waste, reduce the effect of the waste and their choice of action to solve the problem. Waste is defined as "a portable object that has been abandoned by the owner" and also as an "orderly disposal garbage" (Bilitewski et al 1994, pg.21). Waste is classified in categories such as municipal solid waste (MSW), agricultural and animal refuse, industrial residues, extraction and mining waste, construction and demolition debris and sewage sludge among others. The distinction that is made from MSW to other types of waste is in its origin. MSW emerges from households, commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings). This includes bulky waste, which includes voluminous unwanted items such as old furniture, found in households; green waste such as garden waste (i.e leaves, grass, tree branches).

METHODOLOGY

Research Design

This study is a descriptive survey design type because it is designed to determine the nature of a situation in this case.

Population

According to Shittu(1991), population could be defined as a collection of all objects of interest of an investigation. The target populations for this study are the residents (human) in New Igando, Alimosho local government Lagos state. This is the universal population from where the sample was determined. The estimated population of the residence in this location is over 2,000. The population in this location was over 2,000 and the sample for this study was selected randomly by an arithmetic approach among the residents in the environment under the study by counting 2 houses to represent 10 meters from the entrance to cover 500 meters(i.e 50 houses) including commercial businesses for the study. Whereby, giving access and opportunity to both young and old resident as well as educated and uneducated ones.

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Sample and Sampling Techniques

According to Harper (1965) sampling is a group of the items taken from a population for examination. There are two types of sampling techniques

1. Random sampling
2. Non random sampling

The sampling technique that will be used in this study is random sampling of 200 people within the community, ranging from those that live within the community, those that also work within the community and also the passer by.

Procedure for Data Collection

The researcher distributed the copies of questionnaire by direct contact to the residents. The questionnaire was administered on the residence at the location of the research study. Also, interpretation of the questionnaire was granted to those residences with no formal education for adequate information. Duration of two (2) weeks was given to residents at this location for them to properly fill the questionnaires.

Method of Data Analysis

The questionnaire administered to the respondents were collected, checked and grouped in different categories with similar opinions. The data collected through the questions was analyzed using simple percentage. The various hypotheses was tested using pearson's correlation coefficient, t-test and descriptive statistics. Professional packages such as SPSS was used in the analysis of the data generated for this study.

For the Bio data (section A), simple percentage was used to determine the frequency of the respondents.

$$\text{Frequency (\%)} = \frac{\text{Number of respondent}}{\text{Total response}} \times 1OO$$

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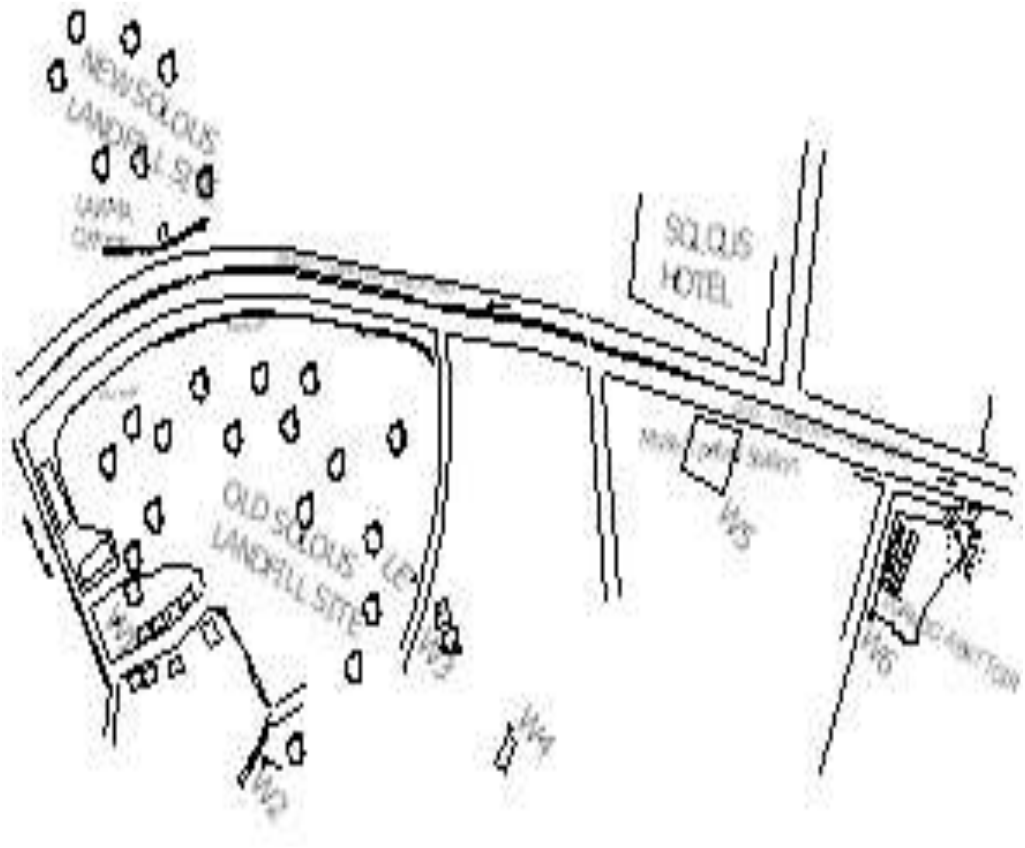
A view of the Landfill in Igando, Lagos, Nigeria.



Schematic Diagram Showing the Study Area.

The Solous landfill is situated at Igando in Alimosho Local Government Area of Lagos State, Nigeria. It started operations in the year 1996 with a projected lifespan of between 5 and 6 years. The landfill initially covered an area of about three hectares, and surrounded by residential, commercial and industrial set-ups. The landfill site has since witnessed rehabilitation which consisted of reclamation of land, construction of accessible road for ease of tipping, spreading and compaction of waste since inception. The expansion work was ongoing during the course of this study. Tipping at the landfill on a daily basis is averaged at 1000 tonnes of waste. Solous receives waste from entire Lagos Nigeria.

PRESENTATION AND DISCUSSION

Summary of Demographic Characteristics

The tables below shows the summary of the personal information gathered from the respondents

Table 1: Gender of the Respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	120	60.0	60.0	60.0
Female	80	40.0	40.0	100.0
Total	**200**	**100.0**	**100.0**	

The table above shows that 60% of the residents are Female while 40% of the residents are Male.

Table 2: Age Distribution of Respondent

Age	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 20	45.0	22.5	22.5	22.5
21 – 30	69.0	34.5	34.5	57.0
31 – 40	26.0	13.0	13.0	70.0
41 – 50	32.0	16.0	16.0	86.0
Above 50	28.0	14.0	14.0	100.0
TOTAL	**200.0**	**100.0**	**100.0**	

The table shows that 22.5% of the residents are within age group of less than 20 years, 34.5% are between 21-30 years, 13% are between 31-40years, 16% are between 41-50years, and 14% are above 50years.

Table 3: Number of Year(S) Lived in the Community

No of years lived	Frequency	Percent	Valid Percent	Cumulative Percent
Less than one year	38.0	19.0	19.0	19.0
1-5 years	83.0	41.5	41.5	60.5
6-10 years	43.0	21.5	21.5	82.0
Above10 years	36.0	18.0	18.0	100.0
TOTAL	**200.0**	**100.0**	**100.0**	

The table shows that 19% of the respondents have lived less than one year, 41.5% respondents lived between 1-5 years, 21.5% respondent lived between 6-10years, and 18% respondents have lived above 10years.

Table 4: Marital Status

Marital status	Frequency	Percent	Valid Percent	Cumulative Percent
Single	70.0	35.0	35.0	35.0
Married	110.0	55.0	55.0	90.0
Divorce	5.0	2.5	2.5	92.5
Widow/ widower	15.0	7.5	7.5	100.0
Total	**200.0**	**100.0**	**100.0**	

The table above shows that 35% of the residences are Single, 55% respondents are Married, 2.5% residences are Divorce, 7.5% residences are Widow/widower.

Table 5: Educational Level

Educational level	Frequency	Percent	Valid Percent	Cumulative Percent
Primary	20.0	10.0	10.0	10.0
Secondary	85.0	42.5	42.5	52.5
Tertiary &above	73.0	36.5	36.5	89.0
No formal education	22.0	11.0	11.0	100.0
Total	**200**	**100.0**	**100.0**	

The table above shows that most of the respondents are partially educated and with greater percentage of 42.5% who have Secondary education, 36.5% respondents have Tertiary & above level of education, and 11% residences have No formal education.

Table 6: Occupation of Residents

Occupation	Frequency	Percent	Valid Percent	Cumulative Percent
Employed	43.0	21.5	21.5	21.5
Unemployed	66.0	33.0	33.0	54.5
Retired	4.0	2.0	2.0	56.5
Farmer	11.0	5.5	5.5	62.0
Trading	40.0	20.0	20.0	82.0
Student	9.0	4.5	4.5	86.5
Food vendor	20.0	10.0	10.0	96.5
Others	7.0	3.5	3.5	100.0
Total	**200.0**	**100.0**	**100.0**	

The table above shows that majority of the residences 33% are Unemployed , 21.5% of residences are Employed, 20% of residences are Traders, 10% of residences are Food vendors, 5.5% of residences are Farmers, 4.5% of residences are Students, 2% of residences are Retired, and 3.5% of residences indicated others as their occupation.

Summary of Residences Knowledge about the Effects of Waste

The results in Table 4.7 shows the summary of what respondents considered as waste, the likely causes of the effects of waste disposal, as well as residents contribution to improper disposal and their awareness towards waste management.

Analysis of Results

The hypothesis formulates show the awareness level of residence of new Igando community and knowledge of proper disposal of waste. Using questions 1 against 2, 3, and 4, the results shows the correlation is equal to 1, 0.829, 0.778, 0.710 at 0.05 and 0.01 level of significant (2-tailed). It shows that there is positive correlation of 100%, 82.9%, 77.8% and 71% for the residence knowledge about the effect of improper waste disposal.

This results show that there is significant correlation between awareness of waste and improper disposal of waste in Igando community. According to Pearson Correlation Coefficient rule, we reject the Null and accept Alternative Hypotheses that the residents of new Igando Community have significant knowledge about the effect of the improper waste disposal.

The hypothesis II analyses show that correlation between ground water contamination and improper disposal of waste using questions 1 against 2, and 3 in the section, the results shows

significant results of Pearson Correlation equal to 1, 0.865, 0.721 and 0.918 at 0.05 and 0.01 level of significant (2-tailed).

It show that there is positive correlation of 100%, 86.5%, 72.1% and 91.8% for the groundwater will not be contaminated due to improper disposal of waste. This results show that groundwater will be contaminated due to improper disposal of waste. Therefore reject the null hypothesis and accept the alternate hypothesis that groundwater will be contaminated due to improper disposal of waste.

The results of hypothesis III analyses show that there is correlation between residence and the damage the effect of improper waste disposal will cause to them using questions 1 against 2, and 3 in the concern section, the results shows significant results of Pearson Correlation equal to 1, 0.904 and 0.662 at 0.05 and 0.01 level of significant (2-tailed).

It shows that there is positive correlation of 100%, 90.4% and 66.2% for the damage the effects of improper waste disposal will caused to them. This results show that the residence are aware and are concerned about the damage the effect of improper waste disposal will cause to them. Therefore reject the null hypothesis and accept the alternate hypothesis that the residences are concerned about the damage the effect of improper waste disposal will cause to them.

DISCUSSION OF RESULTS

The results show the summary of what the respondent considered as water, the likely cause of the effect of waste disposal as well as residents contribution to improper disposal and their awareness towards waste management. A greater percentage of the respondents understand the simple definition term for waste which was quiet encouraging. It shows that the respondents do not know the likely cause of the effects of improper waste disposal. Majority of the respondents indicated environmental pollution as the cause of the effect of improper waste management. The result of improper disposal of waste results to contamination of underground water, retarded growth in plant and animal, it attracts mosquitoes which cause malaria. Water pollution as been identified as the major problem caused poor waste management in the community and its obvious that the government is showing no concern about. The non-challant attitude of the residence has been attributed to the highest source of pollutant in the community.

Equal percentage of the respondents stated that regular sanitation and sensitization are the best method of preventing and managing waste, other respondent also suggest the use of waste bin and constant fumigation of the environment as a means to keep the environment healthy.

CONCLUSION AND RECOMMENDATION

Conclusion

This survey project has being able to provide an indication of the current Residents Awareness of the effects of Improper Disposal of waste in New Igando community, Alimosho local government by focusing on the residents surrounding the community as a case study.

The residents are generally concerned about the environment but are not doing enough to dispose properly the garbage they generate. It is clear from their responses that with sensitization of the public and Regular sanitation they can prevent their household from the risk of being affected by the damage caused by improper waste disposal.

However, their groundwater has been contaminated due to the dumpsite at this location and this posses a great health risk to the residents.

The natural environment requires protection in order to remain healthy for all of its inhabitants. To protect and bring about a healthy and sustainable environment requires the collective efforts of the public, the environmental health authorities and the private sector. Let us all remember these three big words about 'waste': **REDUCE, RECYCLE, REUSE.**

Recommendation

Below are the following recommendation based on the research carried out in New Igando community, Alimosho local government Area of Lagos state.

1. Upgrading of Solous landfill is highly recommended so as to guarantee the integrity of the groundwater quality in the vicinity.
2. Markets for recycled materials need to be encouraged. A reliable waste collection service is needed and waste collection vehicles need to be appropriate to local conditions.
3. There is a great need for the private sector such as commercial banks to collaborate with the Local Government in the solid waste management efforts. It is the corporate social responsibility of the private sector to partner with the Local Government in the smooth delivery of government functions.

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