
THE IMPACT OF WASTES GENERATED FROM PURIFIED WATER ON THE BUSINESS ENVIRONMENT STUDY OF SELECTED BUSINESSES IN EJIGBO LOCAL COUNCIL DEVELOPMENT AREA, LAGOS STATE.

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ABSTRACT

The meaning of waste was discussed including the objective, waste disposal methods, punishment meted on people who dispose waste inappropriately are among the objectives. How wastes are generated i.e Overproduction, Improper Inventory, source reduction and reuse, and methods disposal i.e animal feeding, recycling, composting were discussed. Various methods of filtering water explained. Pearson Moment Correlation is used to test the hypotheses. The hypotheses tested shows that wastes disposal methods is not conformity with international standard. and among the recommendations include; that government should enlighten the people on how important it is to manage wastes from purified water.

Keywords: Water, Sachet, Impact, Purified Environment, Business

INTRODUCTION

Waste disposal is a menace in Nigeria that if not properly checked is dangerous to business activities, the environment and the people that the goods are meant to satisfy. Arku (2008) believes that waste has existed since the beginning of time. Before recorded history, this waste decomposed in small quantities according to a natural cycle. With the development of cities, industrialization, population booms, and the consumption of large amounts of waste, the issue of how to collect and store it appeared. As raw material resources become rare and we tackle climate change, the notions of recycling and recovery have emerged. For each type of waste,

customised ways to treat them now exist. Hazardous and non-hazardous waste, inert waste, bio waste, recyclable waste, medical waste etc In the 1960's it became evident that there could be a dark side to the economic development that resulted from the decades of rapid industrial growth following World War II. During this period the general public became aware of the consequences of improper waste material handling and industrial accidents addo et.al (2009). In the past few decades, public awareness has grown concerning many other important environmental issues Ejechi (2008) believes the cost of manufacturing a product now includes factors for waste disposal and pollution prevention. Often, it is more economical to alter processes to produce less waste, and to recover usable materials from waste streams, than to make a contaminated waste stream suitable for disposal.

Generally, waste could be liquid or solid. Both of them could be hazardous. Liquid and solid waste types can also be grouped into organic, re-usable and recyclable waste. In the view of Boards (2005) Americans alone are responsible for producing a whopping 220 million tons of waste a year. This number is far more than any other nation in the world. Because of this fact both the government and environmental associations have developed numerous methods of dealing with the problem. Waste management is that solution, a rather complex issue that encompasses more than 20 different industries. Waste management is collection, transportation, and disposal of garbage, sewage and other waste products. But Onifade (2006) explained waste management as the process of treating solid wastes and offers variety of solutions for recycling items that don't belong to trash. It is about how garbage can be used as a valuable resource. Waste management is something that each and every household and business owner in the world needs. Waste management disposes of the products and substances that you have use in a safe and efficient manner. Wastes can be generated through Overproduction, Improper Inventory, and Product Defects (scrap, rework) Generally, wastes can be managed through eight major groups, each of them divided into numerous categories.

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Those groups include source reduction and reuse, animal feeding, recycling, composting, fermentation, landfills, incineration and land application. Open dump of solid waste is a common practice in Nigeria. While some employ the service of streams to transport their solid wastes out of their sight, some directly dump their solid wastes by the road sides. In some part of Nigeria, refuse is generally buried, though some heedless burning is sometimes observed (Igoni, *et al.*, 2007). Several Nigerians have considered it a cheap way of disposing off their solid wastes by setting the mixed wastes on fire in a little corner in their backyard or in a very open place. Even, mountains of mixed solid wastes in so-called designated places are set on fire, causing serious and dangerous environmental pollution. Some thick and dark smokes from burning of plastic components of electronics have been seen spiraling up the sky in computer villages. Saw millers set the mountain of wood wastes on fire, while awaiting heavy rains to transport the ashes away. Folorunso and Awosika (2001) related flooding in Lagos to clogging of drainage channels by dumped solid wastes. There is abundant release of gaseous toxic substances into Nigerian environment as well as jeopardizing of health of scavengers as a result of burning of obsolete e-wastes. Due to contact with smokes from burning of solid wastes and gaseous emission from dumpsites, cases of several diseases have been recorded (Oyelola *et al.*, 2009). Solid waste management in Southwest Nigeria suffers set back due to unwholesome waste disposal habits of the citizens as well as funding and sanitation laws enforcement impotency (Sangodoyin, 1993). Solid waste collection and disposal in a developing country like Nigeria have become an integral and indispensable urban service. Among the numerous ways of purifying water are Boiling, Distillation, UV Light devices, Disinfecting tablets.etc

In the Production and Purification of Water, Among the Many Machines Used Include:

WB USA offers the SBM-2000 bottle filling machine as a high quality, cost effective solution for commercial water bottling or bottling of many other liquids.



**Ion Deionization /EDI ultra pure water plant/
Shandong Sihai Water Treatment Equipment Co., Ltd.**

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Source: MIC 24-24-8 Micmachinery water purification machine bottled water machine

Mic Machinery Cixi Co., Ltd.

STATEMENT OF PROBLEM

Wastes generated from purified water production have been a problem in Nigeria because sachets of pure water and other disposable containers, nylons and papers are found everywhere. Whenever it rained, gutters are blocked with various objects thereby causing great erosion and flooding. The researcher therefore intends to know the reasons why this is so and what measures that can curb the menace.

OBJECTIVES OF THE STUDY

The objectives of the research work is to know:

- i. If the methods of wastes disposal is in conformity with international standard
- ii. The effect of waste disposal methods on the business environment and the health of the people.
- iii. If environmental laws for waste disposal are adequate

iv. If law enforcement agents do their work without compromise

Research Questions

i. Does waste disposal methods in Nigeria negatively affect the business environment and the people's health.

ii. Does waste disposal methods in Nigeria conform to international standard

iii. Do enabling environmental laws adequate as regards waste disposal

iv. Does law enforcement agents perform their roles creditably well in enforcing environmental laws

Research Hypotheses

1. Ho: Waste disposal methods do not negatively affect the business environment and the health of the people

H₁: Waste disposal methods negatively affect the environments and the health of the People

2. Ho: Waste disposal methods in Nigeria does not conform to international standard

H₁: Waste disposal methods in Nigeria conform to international standard

3. Ho: Law enforcement agents in Nigeria do their work without compromise

H₁: Law enforcement agents in Nigeria do their work with compromise

SIGNIFICANCE OF THE STUDY

The research will educate the people on why waste disposal is important and how relevant agencies can be more effective.

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SCOPE OF THE STUDY

The study covers the impact of wastes generated from purified water on the business environment, study of Ejigbo Local Council Development Area, Lagos state.

METHODOLOGY

This research work was carried out in Lagos State and specifically, Ejigbo Local Council council development Area. The local council development Area is among the fifty-two council Areas carved out of the old 20 local governments in Lagos State.

Primary data i.e questionnaire was used to gather information and 110 questionnaires were distributed to Business owners and employees of some purified water manufacturing company in the local council development area. The questions were analysed using simple percentage while regression was used to tests the hypotheses.

Where r = coefficient of correlation

n = number of items in each variable

x = dependent variable

y = independent variables

RESULTS AND DISCUSSION

This section deals extensively with analysis of the data collected through the questionnaire administered on business owners in area afore mentioned and interpreting the results using the said simple frequency distribution and percentage. It also deals with the statistical testing of the hypothesis formulated for this research work using regression. Out of 110 questionnaires given out, 100 were found usable.

RESULT DISCUSSION

The questionnaires collected were analyzed with the aid of frequency table as shown below.

S/N	Variables	SA	%	A	%	U	%	SD	%	D	%
01	Wastes generated from purified water litters environment	55	55	28	28	--	--	10	10	07	07
02	Wastes generated are not properly disposed	40	40	30	30	05	05	22	22	03	03
03	Laws regulating the production of purified water is not strictly enforced	33	33	18	18	06	06	18	18	25	25
04	Methods of wastes disposal is in conformity with international standard	33	33	40	40	03	03	11	11	13	13
05	Punishment melted on people who dispose wastes indiscriminately is corrective	10	10	12	12	5	5	38	38	35	35
06	Wastes management authority perform their duties in accordance with relevant laws	18	18	13	13	20	20	30	30	19	19
07	Waste disposal method have negative impact on the business environment and the health of the people	12	12	19	19	06	06	30	30	33	33
08	Environmental officers are got compromised while performing their duties.	12	12	22	22	00	00	21	21	26	26
09	Culture of the people affect waste disposal	10	10	24	24	20	20	16	16	30	30
10	Modern methods of waste management are available	23	23	10	10	5	5	30	30	32	32
11	Waste managenent education is adequate	12	12	18	18	4	4	45	45	21	21

Wastes generated from purified water litters environment: From the table above 55 respondents (55%) strongly agree, 28 respondents (28%) agree, -- respondents (--%) undecided, 22

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respondents (22%) strongly disagree and 03 respondents (03%) disagree that wastes generated from purified water litters everywhere. Wastes generated from purified water litters everywhere. Therefore, majority of respondents believed that wastes generated from purified water litters the environment.

Wastes Generated are not Properly Disposed

From the table above 40 respondents (40%) strongly agree, 30 respondents (30%) agree, 05 respondents (5%) undecided, 22 respondents (22%) strongly disagree and 03 respondents (03%) disagree that wastes generated from purified water are not properly disposed. The implication is that majority of the respondents believed that wastes generated from purified water are not properly disposed.

Laws Regulating the Production of Purified Water is not Strictly Enforced

From the table above 33 respondents (33%) strongly agree, 18 respondents (18%) agree, 06 respondents (06%) undecided, 18 respondents (18%) strongly disagree and 25 respondents (25%) disagree that Laws regulating the production of purified water is not strictly enforced. It means that law enforcers are not strict in the enforcement of relevant waste disposal regulations.

Punishment Meted on People who Dispose Wastes Indiscriminately is Corrective

From the table above 10 respondents (10%) strongly agree, 12 respondents (12%) agree, 05 respondents (05%) undecided, 38 respondents (38%) strongly disagree and 35 respondents (35%) disagree that Punishment meted on people who dispose wastes indiscriminately is corrective. From the respondents view point, indiscriminate dumpers of refuse are not punished commensurately to the negative effect of such action on the environment.

Wastes Management Authority Perform their Duties in Accordance with Relevant Laws

From the table above 18 respondents (18%) strongly agree, 13 respondents (13%) agree, 20 respondents (20%) undecided, 30 respondents (30%) strongly disagree and 19 respondents (19%) disagree that Wastes management authority perform their duties in accordance with relevant laws. Environmental Law enforcement agents refuse to discharge their duties appropriately.

Waste Disposal Method have Negative Impact on the Environment and Health of the People

From the table above 33 respondents (33%) strongly agree, 40 respondents (40%) agree, 3 respondents (3%) undecided, 11 respondents (11%) strongly disagree and 13 respondents (13%) disagree that wastes disposal method has effect on the environment and the peoples health. From the reaction of respondents as shwn above, wrong disposal of wastes has serious consequence on the peoples health.

Culture of the People Affect Waste Disposal

From the table above 10 respondents (10%) strongly agree, 24 respondents (24%) agree, 20 respondents (20%) undecided, 16 respondents (16%) strongly disagree and 30 respondents (30%) disagree that Culture of the people affect waste disposal. The traditional act of burning wastes still permiate the society and therefore reflects on the way wastes are disposed.

Modern Methods of Waste Management are Available

From the table above 23 respondents (23%) strongly agree, 10 respondents (10%) agree, 5 respondents (5%) undecided, 30 respondents (30%) strongly disagree and 32 respondents (32%) disagree that Modern methods of waste management are available. Modern methods of managing wastes are not avaiable as reflected in the response of respondents.

Waste Managenent Education is Adequate

From the table above 12 respondents (12%) strongly agree, 18 respondents (18%) agree, 4 respondents (4%) undecided, 45 respondents (45%) strongly disagree and 21 respondents

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(21%) disagree that Waste management education is adequate. Information on proper waste disposal are not enough therefore, effort should be made to educate the people on reasons to properly dispose waste.

TEST OF HYPOTHESES

Hypothesis

Ho: Waste disposal methods does not conform to international standard

H₁: Waste disposal methods conform to international standard

Variable	Respondent	Percentage
SA	33	33
A	40	40
U	3	3
SD	11	11
D	13	13
Total	100	100

Source: Field Survey 2017

X	Y	X ²	Y ²	XY
33	1	1089	1	33
40	2	1600	4	80
03	3	09	9	09
11	4	121	16	44
13	5	169	25	45
<u>100</u>	<u>15</u>	<u>2988</u>	<u>55</u>	<u>211</u>

$$\frac{n\sum xy - \sum x \sum y}{\sqrt{(n\sum x^2) - (\sum x)^2} \sqrt{(n\sum y^2) - (\sum y)^2}}$$

$$\frac{1055 - 1500}{\sqrt{(14,940 - 10,000)(275 - 225)}}$$

$$\frac{5 \times 211 - 100 \times 15}{\sqrt{(5 \times (2988) - (100)^2) (5 \times 55)}}$$

$$\frac{-445}{\sqrt{(4,940)(50)}}$$

$$\frac{-445}{496} \quad r = -0.897 \quad r^2 = 0.80$$

Since r is negative, it shows negative correlation. Therefore, it means waste disposal methods do not conform to international standards.

Hypothesis two

Ho: Waste disposal methods in Nigeria do not negatively affect the business environment and the health of the people

H₁: Waste disposal methods in Nigeria negatively affect the business environments and the health of the people

Variable	Respondent	Percentage
SA	12	12
A	19	19
U	6	06
SD	30	30
D	33	33
Total	100	100

Source: Field Survey 2017

X	Y	X ²	Y ²	XY
12	1	144	1	12
19	2	361	4	38
06	3	36	9	18
30	4	900	16	120
33	5	1089	25	165
<u>100</u>	<u>15</u>	<u>2988</u>	<u>55</u>	<u>353</u>

$$\frac{n\sum xy - \sum x \sum y}{\sqrt{(n\sum x^2) - (\sum x)^2 (n\sum y^2) - (\sum y)^2}}$$

$$\frac{5 \times 353 - 100 \times 15}{\sqrt{(5(2988) - (100)^2 (5(55) - (15)^2 - 225))}}$$

$$\frac{265}{\sqrt{(14,940 - 10,000)(275 - 225)}}$$

$$\frac{265}{\sqrt{(4940)(50)}} \quad \frac{265}{496} \quad r = 0.5342 \quad r^2 = 0.285$$

Interpretation

since the value of r is positive, it means that current waste disposal methods affects the business environment and the peoples health.

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Hypothesis three

3. Ho: Law enforcement agents in Nigeria do not do their work with absolute compromise

H₁: Law enforcement agents in Nigeria do their work without compromise

Variable	Respondent	Percentage
SA	31	31
A	22	22
U	00	00
SD	21	21
D	26	26
Total	100	100

Source: Field Survey 2017

X	Y	X ²	Y ²	XY
31	1	961	1	31
22	2	484	4	44
00	3	00	9	00
21	4	441	16	84
26	5	676	25	130
100	15	2562	55	330

$$\frac{n\sum xy - \sum x \sum y}{\sqrt{(n\sum x^2) - (\sum x)^2 (n\sum y^2) - (\sum y)^2}}$$

$$\frac{5 \times 330 - 100 \times 15}{\sqrt{(5(2562) - (100)^2 (5 \times 55) - (15)^2)}}$$

$$\frac{1650 - 1500}{\sqrt{(12,810 - 10,000) (275 - 225)}}$$

$$\frac{150}{\sqrt{(2810)(50)}}$$

$$\frac{150}{374.833}$$

$$r = 0.400 \quad r^2 = 0.160$$

From the positive result of the correlation, 0.400 shows that law enforcement agents compromise the performance of their duty.

Summary

Waste management is paramount and vital to the survival of the people. It can be confirmed through the research that waste generated through pure water production litters the environment, though government is trying to put proper

disposal measures in place but the people are adamant. Law enforcement agencies in charge of enforcing waste laws seems adequate but have been overwhelmed by an uncooperating society. Mobile courts should be set up to adjudicate on cases relating to wrong disposal methods by the people.

CONCLUSION

Conclusively, generating and disposing wastes from purified water is a herculean task. The research has revealed how these wastes are generated, various control measures and how the various laws and law enforcement agents are to put their ability doing their best.

RECOMMENDATIONS

- i. Government should educate waste disposal enforcement agencies on the need to be ethically and professionally conciuos in discharging their duty.
- ii. Government should as a matter of urgency get and put in place the latest waste disposal material and equipment.
- iii. Public education and orientation should be put in place by government to sensitize the people on proper waste disposal method.

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