

Market Environment  
And Health Behaviour  
Of Traders At Sabo,  
Ile-Ife Nigeria

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**ABSTRACT**

Environmental conditions in many areas threaten to reverse the gains made in public health over the last decades. In Nigeria, environmental pollution in markets is an important challenge to public health as a result of urbanization. Although there have been several studies on market environment, however, this study of Sabo Market in Ile-Ife becomes pertinent, given the epidemic of cholera in the market in 2010. Health belief model was adopted as framework, while survey design was employed. Systematic sampling technique was used to select 370 respondents. Questionnaire and key informant interview guide was used. The study showed that cholera/diarrhea (73.0%) was the common ailment in the market, followed by typhoid and malaria (20.3%). Lack of good drinking water (83.9%) and lack of good drainage system (14.6%) were their major health related problem. Ninety four point six percent were aware of the consequences of an unhealthy environment. However the effort made at keeping the environment clean was very minimal. There was a significant relationship between age of the respondent and health problems encountered in the market, significant relationship between gender and the awareness of the consequences of an unhealthy environment, as well as a significant relationship between highest level of education and perception of methods adopted to ensure a clean and healthy environment in the market among others. The unhealthy environment of Sabo market impacted negatively on the health of the traders, however, negligible efforts has been made by both the traders and the government to avert the problems. Current policies on environment should focus on the sanitization of traders and provision of more health facilities in the markets.

**Key Words:** Market Environment, Health Behaviour, Sabo, Ile-Ife

**1. INTRODUCTION**

Environmental issues have continued to dominate discussions and consciousness as it has become clear that the physical, chemical as well as the biological components of the planet is being compromised (Adegbo, 2010). Although some of the impacts might be gradual, however it is consistent and several communities around the globe are being consumed by sea incursion, coastal and gully erosion, bush fires etc, lives and properties worth billions of dollars are being lost on a daily bases (Kashmira, L. 2012). While the developed countries of the world are able to effectively combat the destructive physical impacts of their immediate environment due to their access to technology and resources, the developing countries are almost totally at the mercy of nature with very low technological capacity to respond to environmental threats (Adegbo, 2010).

The Nigerian environmental system is characterized by the combination of natural features that make it uniquely susceptible and highly fragile. In addition to environmental threats posed by Nigeria's natural physical setting, there are a number of threats that are related to human activities, such as bush burning, deforestation, waste

generation among others, which have further amplified the country's vulnerability to environmental degradation (Andrew, 2006).

Furthermore, massive waste generations, as a result urbanization and industrialization, could affect the quality of air and the water consumed as well as loss of lives. Nigeria's major urban centers are struggling to clear mounting heaps of solid waste from their environments. These strategic centers of beauty are being overtaken by the messy nature of over flowing dumps, unattended heaps of solid wastes emanating from household or domestic sources, markets, shopping and business centers.

Apart from schools and workplaces, one of the most important settings in cities is the market. Access to safe and nutritious food is crucial for life and is indeed the basis for health. The food markets often serve as the commercial and social centre of communities, reflecting local culture and traditions of the people. The health of most people could be said to be dependent on the conditions in these settings as well as the availability of health care services. However, markets in most cases have breeding ground for emerging diseases. Traders in some markets in developing countries are constantly exposed to health hazards resulting from dirty and obviously polluted market environment.

Particularly, most Sabo markets are renowned for sale of food items like cabbage, carrot, cucumber, tomatoes onions among others. Many Nigerians depend on these food items that are bought and sold in these markets. However, Sabo markets are also renowned for massive waste generation resulting to unhealthy environment and posing a threat not only to the traders but also to many that depend on these food items bought and sold in these Markets.

Sabo market in Ife Central LGA is one of the markets in Nigeria that has witnessed an epidemic of Cholera resulting from unhealthy market environment. The incident, which claimed several lives of the traders in 2010, could be said to be an indicator of the level of contamination pollution generated in this Market. This study therefore becomes necessary in order to examine the effect of Market environment on the health behaviour of the traders.

## **2. RESEARCH OBJECTIVES**

The main objective of the research is to examine the effect of market environment on the health behaviour of traders in Sabo market in Ile-Ife Nigeria. Specifically, the study is intended to;

- Highlight the common health problems associated with Sabo market environment in Ife Central LGA.
- Asses the traders awareness of the consequences of unhealthy environment.
- Examine the activities of traders towards maintaining a healthy market environment in the study area.
- Explore the preventive measures adopted by the traders to maintain good health in the area.

### 3. THEORETICAL FRAMEWORK

The Health Belief Model was adopted for this study. This theory is a health behavior change and psychological model developed by Irwin M. Rosenstock in 1966, for studying and promoting the uptake of health services. The theory postulates that behavior is determined by personal beliefs or perception about disease and strategies available to decrease its occurrence (Hochbaum 1985). The theory is based on the following construct, perceived susceptibility, perceived seriousness, perceived benefits, perceived barrier, cues to factors, motivating factors and self efficacy. Each of these perceptions individually or combination were used to explain the health behaviour of the traders.

### 4. METHODOLOGY

Sabo market in Ile-Ife was chosen because of the epidemic of cholera in the market in 2010, which claimed the lives of many traders and residents in the market and its environs. This market is also renowned for massive waste generation and poor management. The research was targeted on both the traders and residents within the market environment.

A sample size of 370 was used and systematic sampling technique was used to select the respondents. This was done by selecting every second person on the list comprising all registered traders in Sabo market. The selected respondents were addressed by the market authorities in their local dialects to sensitize them on the importance of the exercise. The study employed a combination of qualitative and quantitative data collection techniques. A total of 370 questionnaires were administered on the traders. Key informant interview was used to elicit information from the head of the market (Saraki) and his cabinet. Fieldwork started with KII, which provided the preliminary insight that necessitated design of quantitative instrument. A sample questionnaire was designed and pre-tested in markets other than the one selected for the data collection. The final questionnaire included a 25 closed and open-ended items drawn by the researcher to not only elicit demographic data but also encompassed questions designed to measure the specific objectives of the study.

Field assistants, comprising those who spoke Hausa, Yoruba and Igbo fluently were trained by the researcher. The fluency in these three major Nigerian languages enabled the researcher to interpret the questions in the local languages of these traders.

Ethical considerations were emphasized throughout the fieldwork. The consent of respondents was sought prior to their participation in the study, the right to withdraw at any point, or withhold any information perceived to impinge on their privacy was fully acknowledged and respected. In addition, their confidentiality was guaranteed to the extent that information would never be traced to these participants.

Frequency counts, simple percentage, cross tabulation count and chi-square analyses were the statistical methods used to process quantitative data while verbatim reporting and simple written expressions were used

for qualitative data analysis. Section A of the questionnaire which contains information on the demographic characteristics of respondents was analyzed by coding and a frequency count was carried out using SPSS to tabulate the valid percentage and cumulative percentage of the variables. For other sections, both open ended and closed ended questions were coded and analyzed accordingly. Cross tabulation count was used to test necessary objectives while chi-square was used to test level of association. In measuring relationship, the precise extent of agreement was measured by means of Pearson Chi-Square.

## 5. RESULT PRESENTATION AND DISCUSSION OF FINDINGS

### *Socio demographic characteristics of the Respondents*

The age range for the respondents was from 15 to 65 years and above. They included both male and female. Almost all the participants were Nigerians with Hausas (54.9%) and Yoruba (20.9%) dominating the population. Although adherents to Islamic religion and Christianity dominated the population, other religions such as traditional religion were represented. Furthermore, there was a little margin between the population of Islam and Christians (48.1% & 47.6%) respectively. This contradicts the common belief that Sabo markets in Nigeria are dominated by Islam. However the authorities (Sariki and his cabinets) of the market comprise mostly Hausas/Islam.. Although there were people from other tribes, they coexisted peacefully, as the market had not witnessed any ethnic or religious crises as at the time of this study. Forty seven point eight percent of the population were married while 41.9% were single others were either divorced or widowed. In all (65.7%) male and (34.3%) female traders participated in the exercise. Educational level was considerably high as more than half of the population had either primary, secondary or tertiary education as well as other forms of informal education. Just a handful of the population had no formal education. However, the high level of contamination and dirt generated in this market contradicts the findings of previous studies that education has a positive impact on cleanliness. (Vivas *et al*, 2013).

Table 1: Socio demographic characteristics of respondents

VARIABLES	FREQUENCY	PERCENT
<b>Sex</b>		
Male	243	65.7
Female	127	34.3
<b>Total</b>	<b>370</b>	<b>100.0</b>
<b>Age</b>		
15-19	92	25.0
20-24	68	18.5
25-29	49	13.3
30-34	63	17.1
35-39	13	3.5
40- 44	23	6.3
45 – 49	23	6.3
50 – 54	19	5.2
55 – 59	10	2.7
60 and above	8	2.2
<b>Total</b>	<b>368</b>	<b>100.0</b>

<b>Religion</b>		
Christianity	176	47.6
Islam	178	48.1
Traditional	16	4.3
<b>Total</b>	<b>370</b>	<b>100.0</b>
<b>Highest level of education</b>		
No formal education	50	13.5
Primary	110	29.7
Secondary	163	44.1
Tertiary	29	7.8
Others	18	4.9
<b>Total</b>	<b>370</b>	<b>100.0</b>
<b>Marital status</b>		
Single	155	41.9
Married	177	47.8
Widowed	38	10.3
<b>Total</b>	<b>370</b>	<b>100.0</b>
<b>Residence</b>		
Sabo ile-ife	310	87.3
MokuroIgeta,	26	7.3
Modakeke	4	1.2
Oduduwa, Ilobu	15	4.2
<b>Total</b>	<b>355</b>	<b>100.0</b>
<b>Ethnicity</b>		
Yoruba	197	54.9
Hausa	75	20.9
Igbo	21	5.8
Other specify	66	18.84
<b>Total</b>	<b>359</b>	<b>100.0</b>

**Most common health problems among Traders**

The most common ailments among the traders were cholera/diarrhea (73.0%), followed by Typhoid/ Malaria (20.3%). This finding contradicts the observations of Balogun and Owoaje, (2003), that the common ailments reported by the traders were; muscular and joint pain, malaria and low back pains.

*Table 2: Most common health problems among traders*

Common health problems	frequency	percent
Cholera/ Diarrhea	259	73.0
Typhoid and Malaria	72	20.3
Tuberculosis	15	4.2
Joint Pain	9	2.5
Pile	15	4.1
<b>Total</b>	<b>370</b>	<b>100.0</b>

It also contradicts the results of Ige and Nwachukwu, (2009), who posited that the common health problems of traders In Ibarapa central LGA Ibadan were febrile illness, genito-urinary and musculoskeletal infection. The contradictions could be as a result of the differences in the market environment as markets that have proper waste management pattern and good drinking water facilities may not be besieged by epidemic of cholera or typhoid. The high prevalence of cholera and typhoid in sabo market could also be attributed to large volumes of dirt generated from this market which harbours disease-spreading insects, like mosquitoes and houseflies. These flies could easily pry on the food stuffs and meats sold in this market, thereby contaminating them. This is consist with the observations of Barreiro, Albano, Silva, and Teixeira, (2013) that due to their indiscriminate

movements, ability to fly long distances, and attraction to both decaying organic materials and places where food is prepared and stored, houseflies greatly amplify the risk of human exposure to food borne pathogens. Houseflies can transport microbial pathogens from reservoirs (animal manure) where they present a minimal hazard to people to places where they pose a great risk to food (Olsen, 1998).

**Health related problems encountered in the Market**

Health related problems	Frequency	percent
Lack of good drinking water	298	80.5
Lack of drainage system	52	14.0
Inadequate health facilities	15	4.1
Mosquito bits	5	1.4
<b>Total</b>	<b>370</b>	<b>100.0</b>

Majority of Sabo traders stated that their major health related problems were lack of good drinking water (80.5%), followed by lack of good drainage system (14.0%) and inadequate health facilities (4.1%). Furthermore, the study observed that some of the deep water wells which provide major sources of drinking water for traders and residents in this market were dug close to the pit toilets use by majority of the residents at sabo market. This is confirmed by a respondent who said:

Cholera and diarrhea are our major problem here, that was what killed people here in 2010. This is because we don't have good water; no pipe born water, the well water we drink is dug close to the toilet that is why we are sick.

In adequate water coupled with the indiscriminate manner with which traders and residents fetch water from these wells worsened their health condition. For instance, the researcher observed that the traders and resident used dirty containers in fetching water from the wells; little or no efforts were made by the traders to secure the sanity of their major source of drinking water. This could also be attributed to the causes of the epidemic of cholera in this market in 2010.

**Awareness of the consequences of unhealthy environment**

Contrary to the assumptions of Giddens,(2006), that awareness of the consequences of unhealthy environment was low in developing countries, this study found that the traders in Sabo market were aware of the consequences of unhealthy environment on their health as (94.6%) of the traders confirmed this.

This is further confirmed by a respondent who said;

We know this environment is not good for us, that is why we are calling the government to help us. However unlike the previous administration, this government is trying, they come once in a week to pack the dirt. But before that day everywhere will be very dirty and smelling. They should come like three to four times in a week.

This response indicates that the traders were aware of the consequences of an unhealthy market environment on their health, however they made little or no efforts at improving the situation. This finding is at variance with the construct of perceived seriousness which speaks to an individual's belief system. This construct explains that the belief system of an individual about the difficulties a disease will create or the effect it would

have on his/her health determines how serious the person takes the situation. Although traders at Sabo market were aware of the consequences of dirty environment on their health, the efforts made at ameliorating its prevailing consequences were very insignificant. They however relied heavily on the efforts of government, which they also confirmed as being inadequate. There were no local or communal arrangements for cleaning the market. Furthermore, other factors like poverty, low level of education and inadequate social amenities also contributed to the trader's nonchalant attitude as some of them were more interested in fending for their daily meals than bothering about unhealthy market environment. This is confirmed by a respondent who said:

I don't know, I am hungry, I don't see dirt. Am more concerned with feeding my family now, not weather the market is dirty or not.

### ***Activities of Traders toward maintaining a healthy market environment***

Majority of the respondents (63.8%) agreed that it was by sweeping their environment that they kept it clean. However the response of some of the respondents interviewed confirmed high level in indifference towards the state of their environment.

For instance a respondent said;

We don't have any arranged market environmental sanitation; some people sweep their shop every morning. It is only on government sanitation exercise that we join them to sweep.

This response shows the level of nonchalant attitude of the traders towards their environment as well as the heavy reliance on the inadequate efforts made by the government.

It's the government car that comes to carry the dirt every two weeks or one week if not this market will be very dirty, because people do not bother to sweep the market.

These responses also confirm the findings of Onibokun, (1989), that the War Against Environmental Indiscipline (WAI), introduced by the former Buhari administration was misinterpreted, frustrated and hijacked by miscreants. Furthermore, one would imagine that the death of some traders in 2010 as a result of cholera outbreak will serve as sufficient clues to action for Sabo traders, this was not the situation as just a handful of the traders saw the benefits of keeping their environment clean (Perceived benefits). Their responses also confirmed that there were no policies regulating indiscriminate dumping of refuse in the market, and if such policies existed, the implementation was very low as the traders disposed their refuse indiscriminately. This discovery contradicts the assertions of the Federal Environmental Protection Agency (FEPA 2005), that several agencies and policies has been set up by federal Government to checkmate environmental pollution. Where such policies existed, there is need for proper implementation.

### ***Preventive measures adopted by the traders to maintain good health***

The table below shows that majority (70.5%) of the traders relied on self-medications and use of herbs as preventive measure.

Table 3: preventive measures adopted by the traders as to maintain good health

Preventive measures	frequency	percent
Cleaning the environment	41	15.1
Regular physical exercise	38	14.0
Self medication and herbs	191	70.5
Eating good meals	1	0.4
<b>Total</b>	<b>271</b>	<b>100.0</b>

Similarly, a respondent said:

I take 'agbo' every morning before I go to the market that is why am strong, it will flush my system very well.

Another respondent also said:

Ah! If not for the herbs that I took,, I would have died in 2010 during that epidemic.

'Agbo', an herbal mixture was predominantly taken by these traders. This concoction was believed to be highly potent for disease prevention and most of them religiously took it. This observation is in line with the submissions of Jegede, 2010, Erinosh, 2006, Oke *et al* 1989, Odebiyi, (1982), that the belief system and culture of the people is a major determinant factor for their use and access of health facilities.

However a respondent also said:

Is not that we don't want to go to hospital, but there is no money, hospitals are expensive. Even the closest health center here is no longer functional; we seriously need a health center in this market. Government should intervene by giving the traders regular immunization if not what happened in 2010 will happen again.

The above statement indicates that poor economic status also prevents access and use of proper health facilities, as some of these traders who would have preferred to use more sophisticated and scientifically approved preventive measures were marred by their poor socio economic status.

Table 4: Medication preferences for traders

Medication preference	frequency	Percent
Orthodox	136	36.8
Traditional	49	13.2
Both 1 & 2	166	44.9
Spiritual	19	5.1
<b>Total</b>	<b>370</b>	<b>100.0</b>

This table shows that a good number of the traders would have preferred orthodox medicine (36.8%). However they were constrained by lack funds to defray their medical bills and inadequate health facilities. This could also explain why 44.9% of the respondents decided to use a combination of both the orthodox and traditional medicine. The construct of perceived Barrier came into play as a good number of the traders, who would have preferred orthodox medicine, were limited by the aforementioned factors. Similarly, the construct of modifying variables also played a major role, as issues like culture, belief system and level of education among others, militated against the use of orthodox medicine.

Table 5: Crosstabs and chi-square showing relationship between age and health related problems encountered by the traders

Age	Lack of good water	Lack of drainage system	Inadequate health facilities	Mosquito bites	Total
15-19 count	57	35	0	0	92
% within age	62.0%	38.0%	0%	0%	100%
20-24 count	64	0	0	0	0
% within age	100%	0%	0%	0%	0%
25-29 count	38	6	1	4	49
% within age	77.6%	12.2%	2.0%	8.2%	100.0%
30-34 count	63	0	0	0	63
% within age	100%	0%	0%	0%	100%
35-39 count	11	0	0	0	11
% within age	100.0%	0%	0%	0%	100.0%
40-44 count	18	0	0	0	18
% within age	100.0%	0%	0%	0%	100.0%
45-49 count	17	5	0	0	22
% within age	83.8%	14.8%	3%	1.1%	100%
50-54 count	16	2	0	0	18
% within age	88.8%	11.9%	0%	0%	100%
55-59 count	6	3	0	0	9
% within age	63%	33.3%	0%	0%	100%
60 and count	6	1	0	0	7
% within age	85.7%	14.3%	0%	0%	100%
<b>Total</b>	<b>296</b>	<b>52</b>	<b>1</b>	<b>4</b>	<b>353</b>
	<b>83.9%</b>	<b>14.7%</b>	<b>3%</b>	<b>1.1%</b>	<b>100%</b>

Pearson's Chi-Square (df) 102.210(27)

Significance value 0.000

Eight three point nine percent of the respondents irrespective of the age bracket were of the opinion that lack of good drinking water was a major health related challenge in the environment, followed by lack of drainage system. Respondents within age range 15-34 felt the effect of lack of good water more than those in age bracket 35-60 and above. This could be attributed to the current awareness campaign on the deteriorating state of the environment.

The Pearson chi-square value was 102.210 and level of significance (p) was 0.001. P is less than 0.05. Therefore there was a significant relationship between age of the respondents and health problems encountered in the market.

Table 6: Gender and awareness of consequences of unhealthy environment.

Sex		Awareness of consequences of an unhealthy environment		Total
		Yes	No	
Male	Count	223	20	243
	% within sex	91.8%	8.2%	100%
Female	Count	127	0	127
	% within sex	100%	0%	100%
<b>Total</b>	<b>Count</b>	<b>359</b>	<b>20</b>	<b>370</b>
	<b>% within sex</b>	<b>94.6%</b>	<b>5.4%</b>	<b>100%</b>

Pearson's Chi- Square (df) 11.050 (1)

Significance value .001

On gender and awareness of the consequences of unhealthy environment, 91% of the males were aware of the consequences while 100% of the female populations were aware of the consequences. Pearson chi-square value was 11.050, while the p value was 0.001. Thus, there was a significant relationship between gender and the awareness of the consequences of an unhealthy environment. Although, awareness of consequences of unhealthy market environment was high among the respondents irrespective of gender, however the results showed that women are more aware of the consequences of unhealthy market environment than men.

#### *Level of education and methods adopted to ensure a clean and healthy environment*

The study revealed that out of 236 respondents that agreed that it was by sweeping they can ensure clean and healthy environment in the market, 14% had no formal education, 23.3% had primary education 53.8% had secondary education and 8.9% had tertiary education. The findings also suggests that the percentage of respondents that accepted sweeping as a method of keeping their environment clean increased as the level of education increased. The Pearson chi-square tests value was 555.879 and P was 0.001.  $P < 0.05$  showed that there was a significant relationship between highest level of education and perception of methods adopted to ensure a clean and healthy environment in the market. This suggests that the level of education influenced the methods adopted to ensure a clean and healthy environment in the Market. The more educated traders will likely accept sweeping the market environment as the method to ensure clean and health market environment.

## **6. SUMMARY OF MAJOR FINDINGS**

### *Most common ailment affecting the traders*

The study found that:

- Cholera, diarrhea and cough, were the most common ailments among the traders, followed by malaria and typhoid.
- The traders were also challenged by health related problems like lack of good drinking water, lack of drainage system, inadequate and functional health facilities among others.
- The study confirmed the assertions that some traders lost their lives during the epidemic of cholera in 2010.

### *On the awareness of the consequences of an unhealthy market environment*

The study found that:

- Majority of the traders were aware of the consequences of an unhealthy environment on their health.
- Despite the high level of awareness of the consequences of unhealthy market environment, the traders made little effort to improve their environment.

***On the activities of the traders towards maintaining a healthy market environment***

The Researcher found that:

- That not much has been done to maintain healthy environment at Sabo market in Ife Central LGA. The traders relied much on the government refuse collection vehicles that visits the market once in every week.
- The traders themselves had no organized system of refuse collection management, individual traders were left to manage their refuse, thus resulting to indiscriminate dumping of these refuses in the gutters.
- There were no strong regulations against indiscriminate disposal of refuse. Little or no impact of the agencies and government policies on environmental protection were felt in this market.
- There was very low participation in the monthly sanitation exercise put in place by the state government. Although the local government is in charge of this market, not much has been done on their part to maintain the market.
- Health facilities were highly inadequate as the market had no health center and there had never been any form of vaccine given to the traders to avoid infections.
- Other social amenities like pipe borne water and good drainage system were grossly inadequate as at the time of this study.

***On the preventive measures adopted by the traders to maintain good health***

The study found that:

- 'Agbo' and other herbal remedies had higher preference especially as preventive and curative measures by the traders.
- Their choice of orthodox medicine was marred by inadequate finance and cultural beliefs. Thus some resulted to a combination of both the traditional and orthodox medicine.
- Apart from orthodox medicine and herbs, some traders also prevented diseases by consulting spiritual deities.

**7. CONCLUSION**

The research has clearly show that the unhealthy environment of Sabo market in Ife Central LGA obviously impacted on the health of the of the traders, however, their health behavior in terms of preventive measures and the efforts made at maintaining the environment were grossly inadequate, and therefore needs to be improved upon. Traders were nonchalant towards their environment irrespective of their claim of awareness of the consequences of unhealthy environment. The market authorities and the government have not done much to help the situation in the market as the health facilities in market were inadequate. Similarly the impact of current policies of government is yet to be felt in the market.

The study also concludes that there was high level of tolerance in the market, as most ethnic groups in Nigeria were represented in the market. this contradicts the general believe that trading activities at Sabo markets in Nigeria are dominated by Hausa-Fulani traders. There was high concentration of Yoruba at Sabo Market in Ife Central LGA and they co-existed peacefully with the Hausas.

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