

## Environmental Pollution in Urban Market: The Case of Bodija Market Ibadan, Nigeria.

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### ABSTRACT

Ibadan is one of the largest cities in Nigeria, whose rapid growth is yet to be followed with adequate planning aimed at preventing environmental pollution. Consequently, the challenges of living in a constantly polluted environment, associated with stench and discomfort resulting from this inadequacy remains a constant experience in Bodija Market (a leading food stuff market in Ibadan). The recurrence of these challenges and the examination of the methods of waste disposal adopted by sellers in Bodija, form the focus of this paper using the Health Belief Model and Social Action Theory as bases for explanation. The study also revealed illiteracy, ignorance, negligence and laziness as major predisposing factors that aided sellers dumping of refuse in the environment. Personal hygiene and attempts to keep their immediate surrounding clean were reported as strategies adopted for prevention of environmental pollution which was observed to be inadequate. As a result, most sellers were willing to pay reasonable fee to prevent dirty environment in order to avoid dire consequences. The study recommends improved government effort, education, sanctions, sensitization and campaign against environment pollution to rescue the situation.

**Key words:** Environment, Pollution, Urban market, Education, Overpopulation, Refuse

### Introduction/statement of problem

Environmental pollution is a huge threat to man's physical surrounding, his health (Fereidoun et al, 2007) and those of other living species (EPHA, 2009). It therefore attracts scholarly attention since pollution problem is an exceedingly difficult one to solve (Robertson, 1987) especially in a developing country. Man damages the environment either intentionally by design or unintentionally by accident. Whatever the source of damages, he bears the primary consequences which are evident in the daily damages and deterioration of the environment and overall threat to his general well being. Schaefer and Lamn (1995) recalled the impossibility of examining all environmental problems in detail, but summarized them into three crucial types which are, air pollution, water pollution and contamination of land.

The increasing population in urban areas has actually heightened the pressure on urban its facilities and environment (Mishra, 2003) as well as those of the Urban market. Consequent upon the volume of activities taking place daily especially in a leading food stuff market like Bodija market, much refuse is generated. The refuse dumps remain part of the surroundings of sellers for a long time, decomposing with strong stench, blocking the roads and preventing ease of movement in and out of the market. In many nations of the world today, people, industries and local governments have polluted rivers, streams, and lakes through dumping of waste materials (Ogunbameru & Rotimi, 2006). Consequently, the dumping of refuse on the land leads to environmental pollution in form of air, water and land pollution. This is because land pollution in form of refuse and sewage produces offensive odour and an ugly sight. This affects the oxygen from the air and perhaps accounts for one reasons why air pollution according to the European Public Health Alliance (EPHA, 2009 ) is one of the most common form of pollution throughout the world. Again, poor refuse and sewage disposal contaminates the well through dirty flowing water and pollutes the water with which meals are prepared in market restaurants and the water in-take of individuals. The heaps of dirt further prevent the flow of water into other wells thus discouraging the digging of additional well and making available water unsafe for drinking.

Environmental degradation, a product of economic forces directed by men creates new problems for women. These problems are typically found in urban market areas. The health of women and those of their children are threatened by pollution in urban market environment (United Nation 1991). Women particularly bear the brunt of the environmental problem for reasons beyond their control. They contribute to over 70 percent of the informal sector (Aina, 1998). In performing their roles as wives, mothers and care givers, their economic activities are restricted when their husbands, children and dependants fall ill. Furthermore, majority of the individuals who are sellers in these markets are women. Hence, the need for women to be at the forefront in tackling the menace of environmental pollution

Urban markets, usually the major work place of the teeming urban poor, suffer from the problem of environmental pollution which results from dumping of sewage, dirt and animal dung. It is often devoid of virtually appreciable social amenities. In Nigeria, these markets are huge production centers; however, many are

unkempt, foul-smelling, fly breeding, rat –infested and rife with health hazards. Now these issues have become more alarming for the greater proportion of the poor including traders, hawkers, and buyers in the markets including women and their hapless children. This is especially so, in the case of Bodija market and calls for attention and research.

Lack of adequate management of refuse dump which has contributed to the increasing pollution of the environment is still a clog in the wheel of environmental development in Ibadan. The consequences of which are evident in stench and offensive smell, dirtiness of the environment and disease infestation. These pollute the air people breathe and adversely affect their health. Also, the source of water supply which is mostly wells in the market which are also polluted with the water that flows in from dirty gutters and water from animal dung serve are used to cook foods in the market which most of the marketer eat in their restaurants. All these can predispose marketers and their wards to water borne diseases like typhoid, dysentery, diarrhea, cholera and other physical discomforts such as stench and ugly sights of refuse dump. It is against this back drop that the study seeks to examine the phenomenon of environmental pollution, its perceived causes and the modes of waste disposal in Bodija Market Nigeria.

## LITERATURE REVIEW

### Pollution as an Environmental Problem

Pollution is the introduction of contaminants into an environment that causes instability, disorder, harm or discomfort to the ecosystem i.e. physical systems or living organisms. Pollution can take the form of chemical substances or energy, such as noise, heat, or light. Pollutants, the elements of pollution, can be foreign substances or energies, or naturally occurring; when naturally occurring, they are considered contaminants when they exceed natural levels. Pollution is common around the world and even in places like India (Gautam et al, 2009) and has attracted increasing concern especially because of its influence in public health (Kiman, 2007). According to Schaefer and Lamn (1995) the environment serves three basic functions for man. Firstly, the environment provides the resources essential for life. These include: water, air, and the raw materials used to build houses and create shelter, transportation, food and other essentials needed for living. If man exhausts these resources, the consequences can be very devastating. Secondly, the environment serves as a waste repository. Man, more than any other living things produce a large quantity and variety of waste products. These include body wastes, garbage, and sewage. The environment is becoming polluted more and more because man is generating more waste than the environment can hardly absorb; and lastly, the environment "house" man and all other living species. The environment is what constitutes our home, our living space, the place where we reside, play and work. Man has no other place to go or reside other than the environment. Man cannot and does not live or reside in a vacuum.

A pollutant is a waste material that contaminates air, water or soil. Three factors determine the severity of a pollutant: its chemical nature, the concentration and the persistence. Pollution can also be the consequence of a natural disaster. For example, hurricanes often involve water contamination from sewage, and petrochemical spills from ruptured boats or automobiles. Larger scale and environmental damage is not uncommon when coastal oil rigs or refineries are involved. Some sources of pollution, such as nuclear plants or oil tankers can produce widespread and potentially hazardous releases when accidents occur. In the case of noise pollution the dominant source class is the motor vehicle, producing about ninety percent of all unwanted noise worldwide.

Environmental pollution through waste has been a major problem in our country and the world at large. Improper waste management/disposal results in the obstruction of drainages leading to the flooding and transmission of air-borne infections and soil-borne organisms that causes diseases. Improper waste disposal can cause pollution of water bodies leading to loss of aquatic life; which also pollute the environment and pose a threat to human health e.g of household hazardous (dangerous) waste include paint, used old batteries, pesticides, cleaners, e.t.c. Municipal solid waste which is more commonly known as thrash or garbage consists of everyday items such as product packaging, grass drippings', furniture, clothing, bottles, food scraps and newspapers, appliances, paints and batteries.

According to Keese (1979), environmental problems are often thought to be characteristics of highly developed and industrialized countries; however, developing countries suffer environmental problems due to population growth, unprecedented urbanization and lack of environmental belongingness. Benjamin (1972) stated that one of the most basic needs for environmental sanitation is to interpose barriers in some channels of infectious diseases. Environmental sanitation is easily one of the most important aspects of disease prevention, and it is most significant since no specialized skill is needed for its implementation.

### Types of Environmental Pollution

According to Khan and Ghouri, 2011 (2006), there are three main types of environmental pollution namely,

air, water and land pollution. Air pollution is the introduction of chemicals, particulate matter, or biological materials that cause harm or discomfort to humans or other living organisms, or damages the natural environment into the atmosphere. The atmosphere is a complex dynamic natural gaseous system that is essential to support life on planet Earth. Stratospheric ozone depletion due to air pollution has long been recognized as a threat to human health as well as to the Earth's ecosystems. The World Health Organization states that 2.4 million people die each year from causes directly attributable to air pollution, with 1.5 million of these deaths attributable to indoor air pollution. Epidemiological studies suggest that more than 500,000 Americans die each year from cardiopulmonary disease linked to breathing fine particle air pollution. A study by the University of Birmingham has shown a strong correlation between pneumonia related deaths and air pollution from motor vehicles. Worldwide more deaths per year are linked to air pollution than to automobile accidents.

A European publication in 2005 suggests that 310,000 Europeans die from air pollution annually. Direct causes of air pollution related deaths include aggravated asthma, bronchitis, emphysema, lung and heart diseases, and respiratory allergies. The US Environmental Protection Agency estimates that a proposed set of changes in diesel engine technology (*Tier 2*) could result in 12,000 fewer *premature mortalities*, 15,000 fewer heart attacks, 6,000 fewer emergency room visits by children with asthma, and 8,900 fewer respiratory-related hospital admissions each year in the United States. Adverse air quality can kill many organisms including humans. Ozone pollution can cause respiratory disease, cardiovascular disease, throat inflammation, chest pain, and congestion. Water pollution causes approximately 14,000 deaths per day, mostly due to contamination of drinking water by untreated sewage in developing countries. An estimated 700 million Indians have no access to a proper toilet, and 1,000 Indian children die of diarrhea sickness every day. Nearly 500 million Chinese lack access to safe drinking water. 656,000 people die prematurely each year in China because of air pollution. In India, air pollution is believed to cause 527,700 fatalities a year. Studies have estimated that the number of people killed annually in the US could be over 50,000. Again land pollution which is quite popular, involves the degradation of Earth's land surfaces often caused by human activities and their misuse of land resources. It occurs when waste is not disposed properly. Health hazard disposal of urban and industrial wastes, exploitation of minerals, and improper use of soil by inadequate agricultural practices are a few factors. Urbanization and industrialization are major causes of land pollution. The Industrial Revolution set a series of events into motion which destroyed natural habitats and polluted the environment, causing diseases in both humans and other species of animals. Land pollution is caused by dumping of refuse, sewage, metal scraps, plastic waste, chemicals, oil spillage, toxic wastes, pesticides, and fertilizers in an area or place. Land pollution causes offensive odour which are poisonous to man. This can affect the health of human being. Furthermore water pollution which is the contamination of water bodies (e.g. lakes, rivers, oceans, ground water), occurs when pollutants are discharged directly or indirectly into water bodies without adequate treatment to remove harmful compounds. Water pollution is a major problem in the global context. An estimated 700 million Indians have no access to a proper toilet, and 1,000 Indian children die of diarrhea sickness every day (The Economist, 2008). Some 90% of China's cities suffer from some degree of water pollution, and nearly 500 million people lack access to safe drinking water (New York Times, 2007). In addition to the acute problems of water pollution in developing countries, industrialized countries continue to struggle with pollution problems as well. In the most recent national report on water quality in the United States, 45 percent of assessed stream miles, 47 percent of assessed lake acres, and 32 percent of assessed bay and estuarine square miles were classified as polluted (EPA, 2007).

### Efforts to Prevent Environmental Pollution

Efforts are however being made by the government, non-governmental organization and various international bodies etc. to prevent environmental pollution and improve sanitary conditions of people worldwide. A UNICEF survey in (2002) found 647 registered civil societies in Nigeria, of which 35 are focused specifically on water, sanitation and hygiene services. According to WHO and UNICEF (2006) progress report on drinking water and sanitation, solutions needs to be accelerated and sustained to contribute to breaking the circle of poverty, lack of education, poor housing and ill-health. Oshodipe (2005) stated that the European Commission donated 41.4 million dollars for a UNICEF water and sanitation project that will help provide safe drinking water and sanitation for 2.1 million people areas across 1,400 rural communities in Nigeria.

Water Aid Nigeria, in its country strategy document for 2006-2011, plans to directly facilitate and leverage access to sustainable water, sanitation and hygiene promotion services for three per cent and two per cent (respectively) of national millennium development goals (MDGs) water supply sanitation targets for poor people in 30 local government areas by 2011 (Daily Independent Online, 2006). The Daily Champion (March 7, 2007) reported that the federal government intended spending 1 billion naira on the provisions of sanitation facilities for female students in selected schools in the 15 northern states. In the report, the former education Minister, Mrs. Obiageli Ezekwesili stated that the need to expend such amount on sanitary facility was government's way of ensuring the prevention of contagious diseases via unhygienic toilets, bathrooms and other facilities.

In the year 2007, the National Task Group on sanitation, set targets to meet the MDG on sanitation. The targets included building million latrines by the year 2008, conduct hands washing campaigns at federal level, in all states and in all local government areas to reach 30 million people and to develop enabling environment to sustainably expand sanitation and hygiene programmes. The task group realized the importance of sanitation hence stated that every dollar spent improving sanitation and hygiene between \$3 and \$34 is saved in health, education, social and economic development. In addition to countless school days lost to sanitation related diseases, the lack of adequate, separate sanitation facilities denies many girls education and economic potential. Thus the year 2008, which the international year of sanitation, the National Task group on Sanitation has prioritized sanitation and hygiene therefore making "increased funding levels and raising new funds for sanitation and hygiene programmes, finalize and widely disseminate harmonized policies and strategies on sanitation, enforce national standards for sanitation and hygiene facilities in schools and health, support environmental health clubs in primary schools, conduct targeted research for improved technologies and methodologies, hold intensive training sessions on new sanitation and hygiene committee (WASHCOM), create demand for "open defecation-free" communities and household latrines, construct new sanitation and hand washing/water facilities in schools and health center, refine and develop media tools for hand washing promotion, monitor and document progress, hold frequent consultations to disseminate results" as their key action points and responsibilities.

Also the Federal Government in collaboration with the United Nations International Children's Funds (UNICEF) and Unilever Nigeria Plc also launched a hand Wash Campaign to promote personal hygiene among pupils in 222 primary schools across the country at the cost of N78.6 million. The aim of the campaign being to promote good health and reduce child mortality in Nigeria through personal and environmental cleanliness by reaching out to over one million pupils in primary schools as change agents (Shaibu, 2007).

In Ibadan, the United Nations Habitat in partnership with Oyo State Government, the eleven local governments, University of Ibadan, Polytechnic Ibadan, OSOT Associates, CASSAD, Urban Development Bank of Nigeria (UDBN), sustainable Ibadan Project Trust Fund, Urban Basic Services (UBS), Water and Sanitation (WATSAN) Project, RECTAS, UNICEF have started the Sustainable Ibadan Project which emphasizes the need for communities to be involved in the planning and management of their environment. Thus, the communities are encouraged first, to decide on appropriate strategies and policies and secondly, to implement them to solve identified environmental problems.

It is envisaged that the community, through their participation in policy formulation and implementation, will appreciate their immediate environment as a resource to be managed by them. Thus, the priority issues of the project include waste management focusing on how to improve sanitation and health and water supply focusing on how to enhance water supply and health of the people hence the project has such activities as natural spring water development, environmental improvement of markets areas, waste management, boreholes and deep wells development, mini-water schemes development (UN-HABITAT, 2005). Currently, the state government through the long established Oyo State Waste Management Agency (OYOWMA) has embarked on a daily cleaning of the major roads of the state. A compulsory sanitation exercise is also expected to be carried out every Thursday and last Saturday of every month by the residents in Oyo state to reduce dirtiness of the surrounding.

## THEORETICAL FRAMEWORK

### Social Action Theory

Sociology according to Max Weber in one of his works, *Economy and society* (1978), is a science concerning itself with the interpretative understanding of social action and thereby with a casual explanation of its course and consequences. Weber views social action as an action carried out by an individual to which a person attached a meaning. In the same vein, social action takes account of the behavior of others and is thereby oriented in its course' (Haralambos and Holborn, 2000). To Weber, understand people's action within a social context requires an understanding of the meaning attached to it by the actor. This is because such actions according to Weber, are not done out of reflex based on motives (intentions) and these motives are thought of to be achieved in relation to the views of others and their reactions. Thus, people's prevention of environmental pollution or sanitary behavior according to Weber's theory, can be determined by what they stand to gain by their cleanliness. According to Weber, in order to understand human behavior, the four basic types of social action must be understood. These include the following stated below:

**Affection:** This is an action that which stems from the state of feeling, impulse and emotion of the actor. Thus an individual may or may not have the impulse to wash/his/her hands when dirty or after using the toilet and also to get rid of wastes in the environment, because he is emotionally driven to or not to do so. Sanitary cleanliness can be innate in the individual.

**Traditional Action:** This is an action which stems from long habit and regulated by the deep rooted acceptance of tradition. Asakitikpi (2004)'s study is an example of this, in which the people studied felt diarrhea is a natural, developmental stage in the lives of children. People may actually perceive improper disposal of waste products as normal based on traditions. Again people due to ignorance and traditional belief may perceive dirtiness of a market environment as a characteristic of such environment or a feature by which a market should traditionally be recognized.

**Value Rational Action:** This is an action which is oriented towards an ultimate end. It is undertaken towards the service of some ultimate end to which the actor is completely and unquestionably committed. Here, a person's target at curbing environmental pollution may be to prevent physical discomfort such as stench and ugly sight of refuse dump, detest of dirt and prevention of diseases.

**Action Rational:** Again, there is a rational deliberation about the choice among the numbers of alternate ends as well as a calculated assessment of means to be employed. This can explain the health slogan "prevention is better than cure". Here, a person's cleanliness may be due to the fact that he/she may not want to spend money treating preventable diseases (such as malaria) and thus prevent such by cleaning his/her environment.

For Weber, there are two types of understanding, *aktuelles verstehen* which means observational understanding and *erklärendes verstehen*, or explanatory. By explanatory understanding he buttressed the need to understand the motives that give rise to individual's action which also involves attempting to discover connections between events and causal relationships (Haralambos and Holborn, 2000). Hence, sellers' dispositions towards preventing environmental pollution are not unconnected to motives and intentions which need to be understood.

## METHODOLOGY

The study area was Bodija market in Ibadan, Oyo State, and a cosmopolitan city whose population continues to increase daily. The market is situated along secretariat – U.I road, within the territory of Ibadan North Local Government, which is the most populated of the 11 local governments. The market is bordered in the North by Agbowo and Orogun, in the south by Bodija estate, while in the West and East are Sango and Bashorun/ Ashi respectively. The location of the market has a lot of advantages. From the viewpoint of proximity, the market is easily accessible to agricultural producers who come from Saki, Oyo, Ogbomoso and the Northern parts of Nigeria. The location is also suitable for easy distribution in and out of the city as it is served by varying network of roads. There are public/commercial buses and taxis to virtually anywhere in the city from Bodija market. Also important is its proximity to the University of Ibadan, serving the food needs of its population of over 20,000 students and staff. The study area is not too distant from the Polytechnic of Ibadan whose population also depends on the market foodstuffs and other products.

The study population included sellers in Bodija market, men and women, and people who sell frequently in the market. For the obvious constraints of time and resources, it is impossible to cover all elements in the study population. Thus a accidental and purposive sampling technique was used in the selection of 200 sellers of all major food stuffs in the market, rice beans, tomatoes, meat, fish, oil, cray-fish, yam etc. Questionnaire was distributed to sampled respondents for the quantitative data. While the qualitative data involved ten in-depth interviews with older market sellers and six Key informant interviews with prominent opinion leaders in the market to complement the quantitative data. The Statistical Packages for the Social Sciences (SPSS) was utilized in analyzing quantitative data descriptive statistical tools such as frequencies and percentages were used alongside with pictorial presentations. The qualitative data was analyzed using content analysis.

## FINDINGS

About seventy-nine percent of the respondents who participated in the study are female. This disparity could be due to the fact that foodstuff is the major good sold in Bodija Market, which is attributed traditionally to be female good and also buttresses the views of Aina (1998) that women contribute to over 70 percent of the informal sector. Again, over 70 percent of the respondents fell within the age category of 30-39 which represent the active ages of the women in the informal sector (Aina 1998). Also, going by the classification of National Population Commission (NPC) 2006 which classified youths as between the age of 24-39 years, majority of the respondents are still in their youthful ages. Most respondents (66 percent) are Yoruba. This perhaps is because of the area where the study is conducted (South-Western) part of Nigeria which is dominated by the Yorubas. About 80 percent of the respondents are married, while 63.5 percent are Muslims. Very few (6.5 percent) had tertiary education such as B.sc, H.N.D, N.C.E, O.N.D, while majority (66.5 percent) had primary education.

A huge of the respondents (87 percent) earn between N1000-N10,000. Whereas, less than 5 percent of the respondents earn N16,000 and above. This goes to show that majority of the respondent belong to a low socio-economic class and group as is expected of individuals in a food stuff market like the study area.

**Table 1: Socio Demographic Characteristics of Respondents**

VARIABLES CATEGORIES		FREQUENCY (N=200)	PERCENTAGE (%)
SEX	MALE	43	21.5
	FEMALE	157	78.5
AGE	25-29 Years	21	10.5
	30-34 Years	53	26.5
	35-39 years	88	44.0
	40 years +	38	19.0
ETHNIC GROUP	Yoruba	131	65.5
	Hausa	21	10.5
	Igbo	48	24.0
	Others		
MARITAL STATUS	Single	5	2.5
	Married	158	79.0
	Divorced	30	15.0
	Widowed	7	3.5
RELIGION	Christianity	73	36.5
	Islam	127	63.5
EDUCATION LEVEL	No formal education	31	15.5
	Primary education	133	66.5
	Secondary education	23	11.5
	Others (specify)	3	1.5
OCCUPATION	Trader	105	52.5
	Farmer	55	27.5
	Civil Servant	40	20.0
MONTHLY INCOME	N1000-N5000	49	24.5
	N6000-N10000	125	62.5
	N11000-N15000	22	11.0
	N16000 +	4	2.0

Source: Fieldwork, 2012

### Causes of environmental pollution

Environmental pollution most especially land pollution is not only very unhealthy for individuals but creates a very ugly scenario for living and selling commodities especially food stuff. Fig 1. Shows and ugly site where refuse are illegally dump in Bodija market. Unfortunately, about three restaurants where market sellers eat and drink water are located very close to this site.

The causes of environmental pollution in Bodija market according to the respondents are illegal dumping of refuse (52.5%), lack of proper waste management (21.5%), overpopulation (17%), lack of drainage system (7%), while 4 (2%) inadequate government supervision (2%). It can be deduced that illegal dumping of refuse was the major cause of environmental pollution in the market. However most of them confirmed that all of them combined had increased the effect and persistence of environmental pollution in the area market.

Fig 1. A site around three restaurants where refuse are dumped in the market



Source: Field research 2012

Many respondents who were interviewed identified illegal dumping of refuse as the major cause of environmental pollution in the market. In the words of a respondent:

The major cause of pollution in the market is illegal dumping of refuse. How would someone prevent pollution when refuse are dump just anywhere. When rain falls on this refuse, it starts spreading and smelling resulting in all kinds of diseases. Much refuse is usually generated in Bodija market. The refuse dump remains unclear for a very long time...block the roads and can compound accessibility problems in or out of the market for buyers and sellers alike. Even outsiders also dump their refuse illegally in the market.

Another respondent reiterate the influence of pollution pressure on pollution in the market by saying:

The major cause of pollution in the market is the high number of people in the market and their volume of activities daily which make much refuse to be generated daily. Apart from overpopulation, lack of drainage system in the market causes pollution....Also, lack of supervision by government and illegal dumping of refuse cause pollution in the market.

The responses from in-depth interview supported those from questionnaires that illegal dumping of refuse is the major cause of pollution in Bodija market. When questions were raised about the level hygiene of sellers in the market, 73 percent of the respondents stated that sellers in the market were not hygienic. From this, it can be deduced that the sellers in Bodija market were not hygienic. The in-depth interview supported the above response. For instance, all the respondents who were interviewed stated that the sellers in Bodija market were not hygienic. In the words of a respondent:

Sellers in the market are not hygienic at all...if they are hygienic do you think they can dump refuse anywhere on the ground, refuse to contribute money to prevent pollution. Also, meat, fish and food items are sold uncovered which become infected with flies, which breed abundantly everywhere in the market.

The above response reveals that lack of proper hygiene has contributed to environmental pollution. Again this could be due to the fact that individuals in the market do not perceive such as an expectation in the market place of due to the fact that they naturally lack the habit of maintaining proper hygiene. A respondent confirms the

former by stating that one of the features of a food stuff market should include dirt and waste by saying:

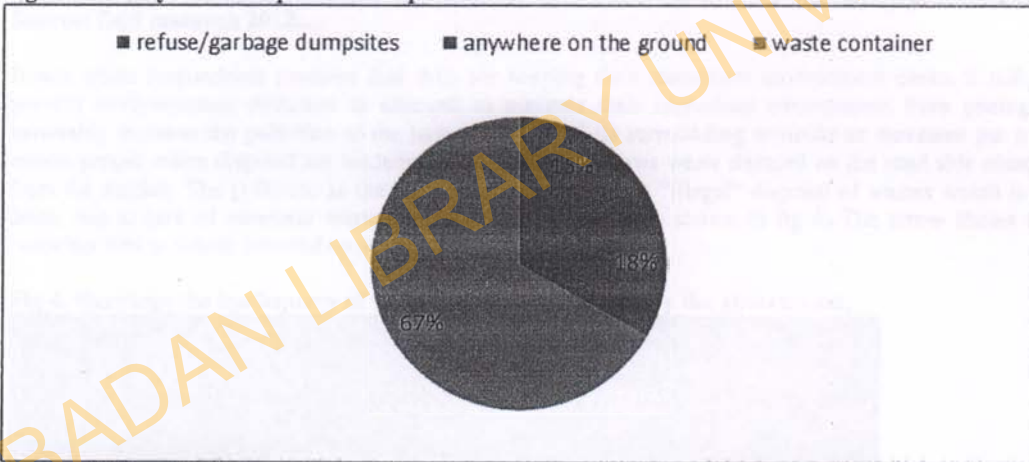
I do not think that a food stuff market like this can exist without you seeing all the dirt around. How do we know that this is a market and a food stuff market in the first place? There must always be a reason for all this refuse to be everywhere in the market and that is because this is a market not a cloth or textile market, or book market, but a food market since lots of food materials that can gather dirt is being sold here, then the market will look dirty....(female/31 years/tomatoes and pepper)

The traditional action of Weber's social action theory is further supported by the above view that the dirtiness of a foodstuff market is so because it is a food stuff market and is therefore expected as that is one of the characteristics of such kind of market.

### Modes by which respondents dispose their solid wastes in the Market

Over 60 percent of the respondents disposed their wastes into waste containers, while 17.6 percent disposed it anywhere on the ground as indicated in *fig 2* below. Also, 15 percent disposed their wastes into refuse/garbage dumpsite. This shows that the sellers are willing to minimize environmental pollution in the market as majority of them use waste containers.

Fig 2. Modes by which respondents dispose refuse

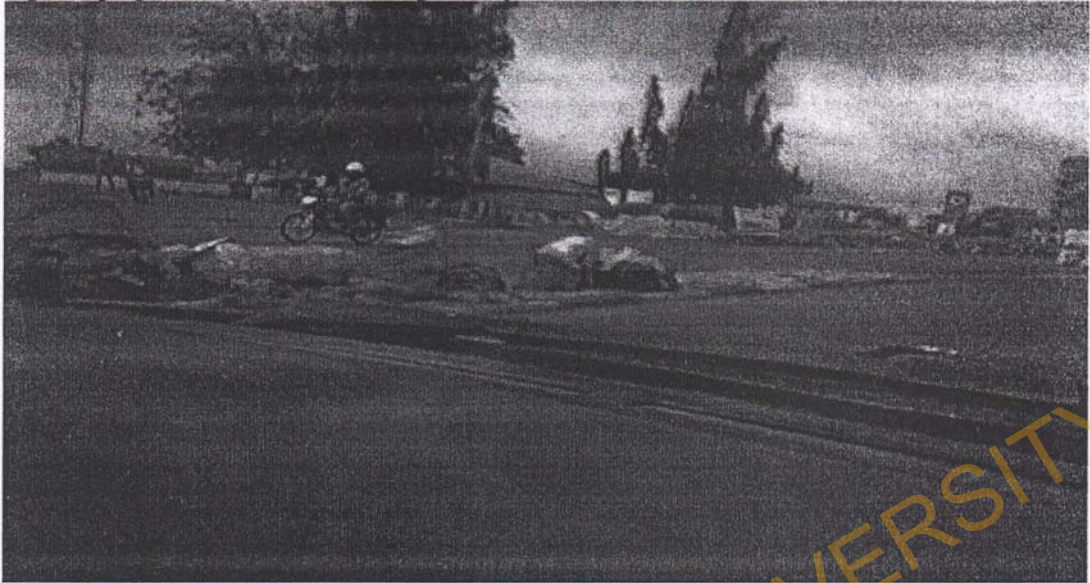


Source: field work 2012.

Although respondents clean their shops and dispose their solid waste to ensure they prevent environmental pollution, it was however observed that the refuse are not properly disposed. Respondents are seen to be dumping their refuse along the road side of the markets or even around the heaped dung-hill within the market premises which still places the health of respondents in danger.



**Fig 3. Improper dumping of waste along the major road some distance from the market**



Source: field research 2012.

Hence while respondents perceive that they are keeping their immediate environment clean, it still does not prevent environmental pollution as attempts to prevent their immediate environment from getting polluted invariably increase the pollution of the larger market and its surrounding environs as measures put in place to ensure proper waste disposal are inadequate. Fig 3. Above shows waste dumped on the road side some distance from the market. The pollution in the market is therefore due to “illegal” disposal of wastes which is probably being due to lack of adequate waste containers in the market as shown in fig 4. The arrow shows the waste container that is almost covered up with refuse.

**Fig 4. Showing the inadequacy of waste containers provided by the government.**



Source: Field research 2012.

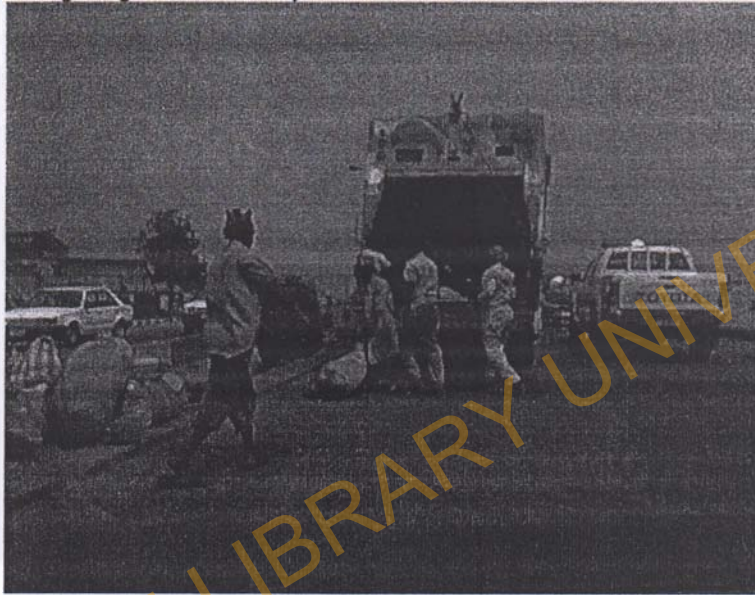
A respondent after being probed further on the modes of waste disposal adopted as a seller, explained thus:

We dispose our solid wastes by keeping it in our waste bins before the government trucks come for the collection of wastes. The government lorry comes but not as often as the refuse is packed. If you miss the lorry, you will

have to dump your refuse till it comes again. I use to be at alert for the lorry so as to dispose the refuse in my waste bag to the lorry. So that the YES o boy will not look for an avenue to collect my money and eat in the name of fine (Female/31 years tomatoes seller)

The above response also reveals that government is making frantic efforts to curb environmental pollution through the provision of waste containers and lorries as well as empowering youth through the YOUTH Empowerment Scheme of Oyo state popularly referred to as "YES" O. Fig 5 below shows the government lorries that comes to remove the refuse

**Fig 5. Showing the government lorry that comes to remove the dirt.**



**Source: field research 2012**

Findings also revealed that a lot still needs to be done by the government in the provision of Lorries and waste containers are some of these materials were reported to be distant and inconvenient for sellers as revealed by another respondents who has this to say:

we have waste containers located in the central market or major road where those who are close can dump their refuse for the lorries to come and pick up. But me, like most sellers around prefer to use nylon bag or sack to pack our refuse till we close, since the location of the containers is far from our shop (female/37 years fish seller)

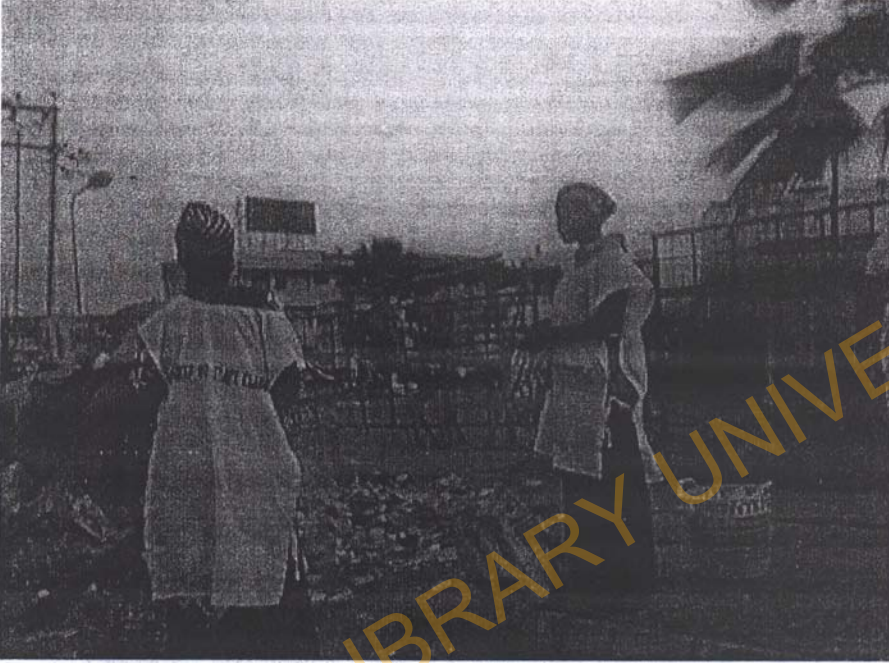
Another respondent added that:

.....because of the inadequacy of the containers in the market some people dispose their wastes on anywhere in the market, while some use the old refuse dumpsite, and also some people prefer to use the containers located in the central market place. As for me, I have waste bin that I keep my waste before final disposal to government wastes-carrier lorry (Female/29 years/yam seller)

The above shows that the government provides the people with waste-carrier lorries which seem insufficient and inconvenient for the sellers. The people still make use of the containers and dump the refuse anywhere when it is inconvenient. The inconveniency or inadequacy of waste containers could be the reason why some people dispose their refuse anywhere on the ground. Again the distance of the waste disposal materials from some sellers discourages them from disposing their refuse properly away their shops where their shops in sacks or nylons are left until the close of day. This leaves their shops untidy during day and the waste containers filled

and untidy both throughout the night and during morning hours until the cleaners who have been recruited by the government come around to do the cleaning. Thus, making the cycle of environmental pollution to continue. Fig 6. shows government cleaners complaining over a dirty surrounding around a waste container while cleaning in the early hours of the morning.

**Fig 6: Showing government cleaners grumbling over a dirty surrounding around a waste container in the morning while cleaning**



Source: field research 2012

It was also obvious in respondents' views that there are very few officials who are incorrupt and focused enough to sanction offenders and prevent them from getting the market dirty or dumping refuse illegally. Thus suggesting that normlessness and lawlessness contributes to the prevalence of environmental pollution and its implications remain in Bodija market. Most respondents (61.8 percent) stated that they do not have representative saddled with the responsibility of curbing environmental pollution in the market, while 38.2 percent stated there are. The opinions of the key informants were however contrary to these as all the informant affirmed that there are government agencies saddled with the responsibility of curbing environmental pollution in the market. This means that many sellers are not aware of the existence of these agents as their roles are not felt which otherwise suggests that the agents are not effective and efficient. The opinions of the key informant were however contrary to these views. One of the key informants stated:

We have representatives for curbing environmental pollution in the market but they are very corrupt, lazy and inefficient. They do not perform their work effectively. Imagine if they are effective, will the market be dirty like this. (Female/32 year/ rice and beans seller)

Another respondent says this:

We have representatives that are very selfish and do not do what they are supposed to do. Even the representatives also add to the pollution of the market by their illegal dumping of refuse. Tell me, how you can persuade me to do the right thing when you are not doing the right thing. (33 years female/ provision seller)

The above response reveals that there are government representatives who are saddled with the responsibility of ensuring that sellers and buyers in the market ensure that hands and put on deck to prevent environmental pollution. Such representatives are however evaluated as not been efficient.

## Roles of Government Agencies in curbing Environmental pollution in Bodija Market

Majority of the respondents (96.5%) stated that arrangements are made by government agencies for the collection of wastes. This shows that government is making frantic efforts to prevent environmental pollution in the market place. However, the level of cleanliness is emphasized in the outskirts of the market where the major road is situated with less emphasis within. A respondent revealed this by saying.

The government is doing so much to provide us with waste-carriers and Lorries to park away the refuse that are gather. Infact we have as a matter of compulsion will drop or refuse in the waste-containers for the lorries to come and pick them but apart from the fact that the containers are not enough, the inside market seem to be neglected. So some people will feel discouraged to come all the way and drop their dirt for the Lorries to park except in the arly morning or late evening when we close. Hence you see that before the Lorries comes, the environment is looking dirty and the waste-containers are very full except on Thursday when the environmental sanitation occurs. (Female/31 years/baby things seller)

Another interviewee buttress these view by saying.

The government is doing so much but a lot still need to be done there are Lorries and waste-containers but they are usually not enough. Some people usually are unable to dump their refuse in this truck because of the time it comes. Also, the waste-carriers lorries were not effective because they are usually unable to carry all the wastes in the market. Also, government collect fines for illegal disposal of sewage but these are not effective.( female// 31 years provision sellers)

Another respondent stated this:

The government of recent has actually done well by providing containers, trucks for carrying wastes and established of body that sees to waste management and cleaning of the environment. But this needs to be felt inside the market. The compulsory sanitation of Thursday is quite impressive. However, market sellers need to be educated on the need to do such daily, because I get very worried when I see the market looking very clean in the mornings of these Thursdays but before and after then, you will see it looking dirty. (male /30 years / meat seller)

The above indicated that government agencies have contributed to the prevention of environmental pollution in their own way but they still need to improve on their performances.

### Recommendation

In recommending how to curb the challenges of environmental pollution in Bodija market, 67.5 percent of the respondents suggested provision of more containers, while 27.5 percent indicated provision of trucks for carrying wastes. Only 2.5 percent mentioned good waste management, establishment of body that sees to waste management. Also, although respondents revealed that there are fines for illegal disposal of waste, it was however emphasized that defaulters should be publicly sanctioned and brought to book for everyone to see. It was suggested that such will serve as deterrence to others. It can be deduced that the government has initiated efforts in curbing environmental pollution especially in the provision of waste containers and Lorries in the market. However more materials are needed to ensures that the impact is felt by sellers in Bodija market.

### CONCLUSION

Even though, illegal dumping of refuse was found to be a major factor causing pollution in the market environment, population pressure was also seen as part of the despoiling factor in Bodija market. It should be noted that poverty, poor education, and inadequate provision of waste preventing materials on the part of government, all make urban market environment to be polluted and unhealthy

The fact that the government and the public had not taken drastic measures towards preventing pollution is a serious issue. That is why social researchers need to involve the government and members of the public to understand the essence of their studies. As such, this research problem was what the people perceive as problem. Therefore, policy implementation that follows such community-inspired and community-oriented research thus becomes a lot more necessary.

## RECOMMENDATIONS

Based on the findings of this study, it becomes necessary to make the following recommendations, which hopefully, will be useful for policy makers in environmental and health issues or those concerned with the prevention of pollution in urban market environment.

Firstly, the poor performance of markets under local government council such as Bodija market based on the failure of local government council to provide basic infrastructure and keep the market environment healthy, indicates that this third-tier government does not have the capability to oversee large urban markets. As such, it is suggested that the Oyo state governments with greater financial, human and technological resources should create fund and maintain key markets, especially those in the urban areas.

Secondly, government should intensify efforts at giving every Nigerian quality education, at least up to secondary school level. This will empower all who want to learn a vocation or trade, to understand the health implications of a polluted environment. It is because illiteracy and ignorance resulting from lack or low educational status had a major role to play in aggravating the environmental pollution in Bodija market.

Thirdly, a balanced development of both rural and urban areas will likely reduce the overpopulation in most urban markets. Many migrants from rural areas have been seen to steadily populate urban markets. Deliberate policies must be made and implemented to make cities less attractive.

In addition to this, government should ensure that bodies charged with the responsibility of controlling environmental pollution are effective. The government should also intensify their efforts at preventing environmental pollution in the markets. Such include the provision of adequate containers, waste bins and the regular coming of trucks for carrying wastes into the market.

Finally, projects aimed at improving the environment and lives of market men and women should be funded and implemented by government and non-governmental organizations. The people should be made to see public properties as belonging to them and not to the government. As such, protect it from deterioration. This can be achieved by sensitizing the people on best strategies to prevent pollution through seminars and symposia.

The incorporation of all these measures including adequate education, campaign and sensitization of the general public including sellers and buyers on their role in combating environmental pollution to prevent health hazards is high necessary. Thus a holistic approach is required to curb environmental pollution not only in the study area, but also in Ibadan as a whole.

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