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URBAN INFORMAL SECTOR AND ENVIRONMENTAL SANITATION IN NIGERIA

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Abstract

This study examines the relationship between informal sector activities and environmental sanitation in Ile-Ife, Nigeria. Information were obtained from 20% of the operators of informal activities in the ancient city. The study established that the waste management techniques of the operators of the informal activities in the city were the major factors contributing to environmental degradation as far as the informal sector is concerned. This is because wastes generated from the activities of the sector were mostly stored in receptacles that were not environmentally friendly. These same wastes were also indiscriminately disposed of by majority of the operators. Furthermore, a good percentage of the operators defecate and urinate indiscriminately as a result of lack of toilet facilities in their business locations. The study concluded that it is imperative to enlighten the public on the hazards of polluting the environment.

Key words: Environmental sanitation, Informal Sector, Waste management, Waste receptacles

1. Introduction

Urban environment in many developing countries is fast decaying (Ahianba, Dimuna and Okogun, 2008). This decay is attributable to factors like rapid urbanization, rural-urban migration and decay of urban infrastructure (World Bank, 2005), among others. Urbanization, the world over, has a lot of impacts on the environment. These impacts include those on health, environmental sanitation, and housing (Maurices and Berry, 1976), to mention a few. This is because the urbanization process in many developing countries has not been accompanied by a corresponding supply of basic amenities, infrastructures (Osuide and Dimuna, 2005) and employment opportunities (Agbolade, 2011).

Population upsurge and inadequate environmental sanitation facilities are two of the major causes of environmental degradation (WHO, 1985), especially in developing countries. Invariably, the influx of people into the urban centres, for whatever reasons, without the corresponding improvement in infrastructural facilities, contributed to the unhealthy environmental condition characterizing many urban centres in the developing countries (Gwatau and Sati, 2004).

This poor environmental condition accounts for about 1.7 million premature deaths in the developing world (Leitner, 2005). About one-third of these deaths occur in Africa (Ahianba et al, 2008). Air pollution in the urban environments has been estimated to result annually in about 800,000 premature deaths. The rate at which communities in developing countries are becoming urbanized therefore calls for attention, considering the impacts such developments might have on the environment if not properly managed.

Migrants in the urban centres, in a bid for survival and because of the non-availability/inadequacy of formal jobs, resort to the informal sector for employment (Agbolade, 2014). This influx into the informal sector has increased the level of inadequacy in environmental sanitation facilities, thereby aggravating the problems of environmental sanitation in the urban centres and impeding both environmental and public health.

2. Informal Sector Activities

Informal sector activities, as described by Becker (2004), are economic activities not covered or insufficiently covered by formal arrangements. This makes it easily accessible by urban dwellers, whether skilled or unskilled. They are units engaged in the production of goods and services with the primary objective of generating employment and income to the persons involved.

According to the International Conference of Labour Statisticians (ICLS) of 1993, they typically operate at a low level of organization, with little or no division between labour and capital as factors of production and on a small scale. Labour relations, where they exist, are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees.

The informal economy is heterogeneous in terms of capital invested, technology in use, adopted management practices, productivity levels and net earnings. Also, the operators of the activities constitute a heterogeneous group with different reasons for joining the informal economy (Flitman 1989). The informal economy may be broadly categorized into two. On one hand, informal economy may be viewed as small-scale modern manufacturing and service enterprises. On the other hand however, are street vendors, shoe shiners, junk collectors and domestic servants. In between the two groups are primary service activities such as informal transport services as well as small trading and commercial establishments (Becker 2004).

As observed by the International Labour Organization (1972), the informal sector has the following characteristics; easy entry into and out of the business; reliance on indigenous resources; family ownership enterprises; small scale of operation; skills required outside the

formal school system; unregulated and competitive market and lack of legal or government recognition. These had made the sector to witness a very rapid growth, most especially in the developing countries.

The rapid growth of the urban informal sector in developing nations has a major impact on the nations. Economically, it provides opportunity to earn income for millions of people in such countries (Habitat 2001), it also contributes to skill acquisition and job creation (Ijaiya and Umar, 2004). However, the capacity of the sector to absorb both the unemployed and underemployed into the labour force has posed a considerable challenge to urban planning and environmental management not only in Nigeria but also in other developing countries of the world.

3. Environmental Sanitation

Environmental sanitation refers to activities aimed at improving or maintaining the standard of basic environmental conditions affecting the well-being of people. These conditions include clean and safe water supply, clean and safe ambient air, efficient and safe animal, human, and industrial waste disposal, protection of food from biological and chemical contaminants; and adequate housing in clean and safe surroundings (<http://www.businessdictionary.com/definition/environmental-sanitation.html>). Environmental sanitation is also defined as the art and science of applying sanitary, biological and physical science principles and knowledge to improve and control the environment and factors therein, for the protection of the health and welfare of the public.

Environmental Sanitation service as defined by Mazubane and Brisley (2002) is any system that promotes sanitary or healthy living conditions. It includes systems to manage waste and storm water, solid waste and refuse. It is the process of creating and maintaining conditions where people live healthy, productive lives and the natural environment is protected and enhanced (Swiss Federal Institute for Environmental Science and Technology, 1999). It also includes the “software” of understanding reasons for health problem and steps to be taken to address these problems and the “hardware” such as toilets, sewers and hand washing facilities which together combine to break the cycle of disease that spread when human excreta and waste are not managed properly (Mazubane and Brisley, 2002).

Many urban centres, especially in Nigeria, are characterized by poor environmental sanitation conditions. This had been attributed to urbanization and lack of comprehensive strategy on sanitation by the relevant agencies in areas of waste management (Nigeria Water Supply and Sanitation Strategy, 2000). Though the provision of adequate waste management facilities is a challenge facing all nations of the world, maintaining a clean environment in the urban centers of the developing world has always been a complex problem (Filani and Abumere 1986).

One of the major resultant effects of urbanization which further aggravates this environmental degradation is the activities in the informal sector. It was noted by Okeke 2000 that the infiltration of the informal sector in the urban built environment has turned out to be a considerable challenge to urban planning in Nigeria. This challenge is as a result of the sector’s capacity to generate environmental problems such as sprawl, waste management problems, incongruous land uses and land degradation. Many municipal authorities are unable to cope with the accelerating growth of municipal waste emanating from informal sector activities to the extent that waste disposal is now one of the most conspicuous environmental problems of Africa’s urban areas. This situation also exists in Nigerian towns, where quantitative and qualitative information available reveals that both the absolute and the per capita quantity of wastes generated is growing steadily (Ashiri 2006). The appalling environmental conditions associated with informal sector activities constitute a major threat to the health and well-being of urban life (Nwaka 2004).

4. Methodology

The data used for this study were collected from both primary and secondary sources. Questionnaires were used in gathering primary data. The questionnaires were administered on the operators of the informal sector activities in the study area. Ile-Ife is made up of two local government areas (Ife Central and Ife East LGAs). A total of 555 operators of informal activities were systematically selected for questionnaire administration in the wards that constitute the two LGAs. Information sought through the questionnaire included socio-economic attributes of operators of informal activities, which included gender, age and educational qualification. Information was also obtained on the waste management practices of the operators, especially in their business locations. Data collected were analyzed with relevant statistical methods.

5. Research Findings

The research findings are discussed under the various headings below. Unless otherwise stated, the tables through which information are summarized are the products of the survey carried out by the author.

5.1. Socio-economic characteristics of operators of informal sector activities

The characteristics to be examined are: gender, age and educational qualification. Findings on the socio-economic status of the respondents were presented in table 1 below:

Table 1: Operators' Socio-economic Background

Parameters	Category of informal activities							
	Trading and commercial activities		Cottage industry		Tertiary services		Total	
	No	%	No	%	No	%	No	%
Gender								
Male	101	(18.2)	62	(11.2)	98	(17.7)	261	(47.0)
Female	231	(41.6)	1	(0.2)	62	(11.2)	294	(53.0)
Total	332	(59.8)	63	(11.4)	160	(28.8)	555	(100)
Age groups								
18-30	124	(22.3)	43	(7.7)	19	(3.4)	254	(45.8)
31-60	189	(34.1)	20	(3.6)	0	(0)	282	(50.8)
Above 60 years	19	(3.4)	73	(13.2)	0	(0)	19	(3.4)
Total	332	(59.8)	282	(50.8)	19	(3.4)	555	(100)
Educational qualification								
No formal education	31	(5.6)	1	(0.2)	0	(0)	32	(5.8)
Primary	55	(9.9)	10	(1.8)	2	(0.4)	67	(12.1)
Secondary	180	(32.4)	46	(8.3)	131	(23.6)	357	(64.3)
Tertiary	66	(11.9)	6	(1.1)	27	(4.9)	99	(17.8)
Total	332	(59.8)	63	(11.4)	160	(28.8)	555	(100)

From the survey findings, 53% of the informal sector operators in Ile-Ife were females while 47% were males. Of the 53.0% women in the informal sector, 41.6% engaged in trading. In other words, 78.6% of all the females in informal sector were in trading. On the

contrary was the cottage industry. Only 1 female was found in it. Similarly, in the tertiary services, there were 62 (11.2%) females. It is evident from the table that 50.8% of the informal sector operators were between 31 and 60 years. Operators in the age group of 18 to 30 constituted 45.8% while those above 60 years accounted for 3.4%. This implied that the young adults and the youths dominate the informal sector in Ile-Ife. Furthermore, this study established that 5.8% of the informal operators had no formal education. Primary school leaving certificate holders represented 12.1% of the informal sector operators in Ile-Ife. The bulk of the operators (64.3%) had secondary school education while operators with tertiary education represented 17.8% of the operators. Operators with secondary education included those that attended modern schools, junior secondary schools, senior secondary schools and technical colleges. On the other hand, operators that attended Colleges of Education, Polytechnics and Universities were regarded as those with tertiary education.

5.2. Method of waste storage

The method of waste storage has a great impact on the built environment. This is because it is one of the determinants of environmental sanitation condition. Various methods of waste storage were employed by the operators of informal activities in Ile-Ife, as presented in table 2 below.

Table 2: Method of waste storage

Waste storage methods	Occupation category						Total	
	Trading and commercial activities		Cottage industry		Tertiary services			
	No	%	No	%	No	%	No	%
Plastic baskets	137	20.6	10	1.5	33	5.0	180	27.1
Sacks	45	6.8	20	3.0	25	3.8	90	13.6
Open buckets	48	7.2	4	0.6	27	4.1	79	11.9
Metal drums	28	4.2	26	3.9	23	3.5	77	11.6
Polythene bags	28	4.2	4	0.6	28	4.2	60	9.0
Baskets	40	6.0	9	1.4	10	1.5	59	8.9
Paper cartons	38	5.7	0	0	15	2.3	53	8.0
Covered bucket	16	2.4	3	0.5	16	2.4	35	5.3
Kegs	9	1.4	14	2.1	8	1.2	31	4.7
Total	389	58.6	90	13.6	185	27.9	664**	100

Note: **Responses here outnumbered questionnaires administered because some respondents use more than one method of waste storage.

The most common method of waste storage in the study area was the use of plastic baskets. This represented 27.1% of all the methods used. Other popular methods were the use of sacks (13.6%), open buckets (11.9%) and metal drums (11.6%). These wastes receptacles are usually overfilled thereby resulting in wastes littering the environment. Other waste storage methods used were kegs and paper carton. These two methods were not very popular as they represented 4.7% and 8.0% respectively.

Of all the methods of waste storage in the study area, only covered bucket was environment friendly. This is because all the other methods were without lid. Due to their lack of lid, the contents were accessible to flies, rodents, cockroaches and other diseases carrying vector insects and animals. These insects and animals could transmit filth and

diseases. Also, the baskets, because of their inability to retain water result in water and land pollution through the produced leachate.

5.3 Availability of toilets

Investigating the availability of facilities like toilet in the structures and spaces housing informal activities was important because this has effect on the sanitation of the built environment. From the survey findings, 65.2% of the operators of informal activities in the study area had toilet facilities in their business locations. The remaining 34.8% did not. This implied that a minimum of 193 informal sector operators urinated and defecated indiscriminately. This definitely had gross negative impact on the environment. It is imperative to examine the responses of the informal operators to lack of toilet facilities. A number of indiscriminate means of urinating and defecating were identified. These were as presented in Table 3.

Table 3: Indiscriminate means of defecation/urination

Indiscriminate means of defecation/urination	Occupation category						Total	
	Trading and commercial activities		Cottage industry		Tertiary services			
	No	%	No	%	No	%	No	%
In uncompleted buildings	70	28.7	6	2.5	7	2.9	83	34.0
Urinate beside shop	46	18.9	3	1.2	4	1.6	53	21.7
In the bush	4	1.6	9	3.7	19	7.8	32	13.1
In paper/nylon and thrown over fence	16	6.6	10	4.1	3	1.2	29	11.9
In dilapidated buildings	12	4.9	12	4.9	5	2.0	29	11.9
In water bodies	7	2.9	1	0.4	3	1.2	11	4.5
Thrown in drainage systems	4	1.6	2	0.8	1	0.4	7	2.9
Total	159	65.2	43	17.6	42	17.2	244*	100

Note: ** The total outnumbered the questionnaires administered because some of the informal sector operators indicated more than one means.

Indiscriminately defecating/urinating in uncompleted buildings, beside shops, in bushes, dilapidated buildings, water bodies and drains is environment unfriendly. It pollutes the environment, impairing its sanitation. It also poses danger to the health of both the residents and the operators of informal activities

5.4 Use of generator for informal activities

Environmental problems would not only emerge as a result of lack of toilet facilities as already identified, it could also occur from the use of generator for power supply. This is because of the resultant noise and air pollution. This study identified that the use of petrol and diesel to generate power was important to the operators of informal activities in the study area. Of the 555 informal activities sampled, 268 (48.3%) used generator for their operations while 287 (51.7%) did not. From the survey findings, more than $\frac{1}{2}$ of the operators in the cottage industry (61.9%) and in the tertiary services (55.6%) used generator for their operations. This may be attributed to the fact that the activities in these two categories required electricity for most of their operations.

5.5 Waste disposal method

Of importance to this study is the method of waste disposal. This is because of the great challenge that it posed to the built environment. A total of 14 disposal methods were found in the study area as presented in Table 4.

Table 4: Method of waste disposal

Waste disposal methods	Occupation category						Total	
	Trading and commercial activities		Cottage industry		Tertiary services			
	No	%	No	%	No	%	No	%
Burning	140	16.1	20	2.3	56	6.5	216	25.0
On open dump	139	16.0	19	2.2	33	3.8	191	22.0
Local Government refuse van	97	11.2	8	0.9	13	1.5	118	13.6
Inside drainage	27	3.1	12	1.4	27	3.1	66	7.6
Barrow boys	22	2.5	2	0.2	27	3.1	51	5.9
On the road/roadside	5	0.6	0	0	29	3.3	34	3.9
Inside water bodies	11	1.3	4	0.5	16	1.8	31	3.8
On vacant/undeveloped plots	13	1.5	4	0.5	14	1.6	31	3.8
In open space	14	1.6	6	0.7	10	1.2	30	3.5
River banks	17	2.0	0	0	9	1.0	26	3.0
In dilapidated buildings	8	0.9	3	0.3	14	1.6	25	2.9
Lunatics	6	0.7	0	0	15	1.7	21	2.4
At road junctions	2	0.2	0	0	12	1.4	14	1.6
Inside uncompleted buildings	4	0.5	2	0.2	7	0.8	13	1.5
Total	505	58.2	80	9.2	282	32.5	867**	100

Note: **Responses here outnumbered questionnaires administered because some respondents used more than one method of waste disposal.

The most common method of waste disposal practice among the operators of informal activities in the study area was burning. It accounted for 25% of the methods used by these operators. Next in popularity to burning was dumping of refuse on open dumps. This represented 22%. These two methods were popular in all the categories of activities in the study area.

The collection of waste by Local Government officials through the refuse vans was an opportunity utilized for waste disposal by 19.2% of the sampled traders. This method of waste disposal was not popular among the operators in the cottage industry and those rendering tertiary services. They constituted 10.0% and 4.6% respectively within the two categories of activities. This was the only environment friendly means of waste disposal identified in the study area.

Other methods of waste disposal in the study area were dumping of refuse inside drainages and water bodies, on the road/roadside and vacant/undeveloped plots, in dilapidated buildings, with barrow boys and lunatics.

6. Summary, Recommendations and Conclusion

This study presents the relationship between informal sector activities and environmental sanitation in Ile-Ife, Nigeria. Findings from the study revealed the factors responsible for environmental degradation as far as informal sector activities are concerned. These factors bother majorly on the waste management techniques of the operators of the activities.

To eradicate, or at least reduce the intensity of the identified environmental problems, there is the need for public enlightenment. The public should be enlightened on the hazards of polluting the environment and the importance of environmental sanitation. The empowerment of the agencies in charge of environmental sanitation at the local government and state levels in order to be able to effectively enforce order in the study area is also important. All structures housing informal activities should be mandated to have attached toilet facilities. There is also the need for improvement in waste management practices in the study area. Waste receptacles should be provided by the government at a distance of 50–100m to the operators. These storage facilities should be with lids. Government should also provide more waste collection vehicles that would be evacuating these wastes regularly. In addition, the operators of informal activities should be mandated to store their wastes in an approved receptacle as prescribed to them by the government. These receptacles should be emptied into the government's own receptacles for evacuation as at when due. The evacuation should be done on a regular basis to ensure the cleanliness of the environment. Sanitary inspectors should be assigned to different places in the study area to curb the indiscriminate dumping of refuse and ensure that defaulters are punished. They should carry out inspections from time to time. They should also instruct and supervise the cleaning of the environment by the operators of informal activities during their inspections.

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