

Awareness, Attitude and Practices of Environmental Sanitation by Informal Sector Partakers in Barkin-Ladi Town Plateau State, Nigeria

Ijeoma G.U. Ayuba¹ Musa Bitrus Dung² Peter Gwom³
Jack O.Kwarfwang¹ Chuwang Bitrus Zi¹

1.Department of Urban and Regional Planning,
University of Jos, Faculty of Environmental Sciences, Nigeria

2.Ministry of Lands, Survey and Town Planning
Plateau State, Jos

3.Department of Urban and Regional Planning, School of Environmental Studies
Plateau State Polytechnic, Barkin- Ladi, Nigeria.

Abstract

This study examines the Awareness and Practices of Environmental Sanitation by informal sector participants in Barkin-ladi town Plateau State, Nigeria. The objective of this study is to determine the efficiency of environmental sanitation practice by informal sector participants and to suggest an appropriate framework for efficient waste collection and disposal. Data was collected using a pretested, semi structured, interviewer administered questionnaire. A total number of 187 questionnaires were administered on the three categories of informal sector activities with trading (63 percent); cottage industries (14 percent) and tertiary services (23 percent) of the sample size. Descriptive analyses were done with frequencies and summary statistics to assess the respondents' Awareness and practices of environmental sanitation. The results revealed that indiscriminate waste disposal is a common attribute of the informal sector operators: disposal of waste in open spaces constitute 54.5 percent, dumping in drainages constitute 49.7 percent while burning was 30.5 percent. 41 percent of the respondents observed monthly sanitation, 24 percent engaged in weekly sanitation. 19 percent engage in daily sanitation while 16 percent do not undertake any form of environmental sanitation. A lot of attention is still required in the development of basic sanitation infrastructure and also, in the promotion of strategies or interventions that influence behavioral change towards environmental sanitation especially by the informal sector operators in developing countries likes Nigeria.

Keywords: *Knowledge, attitude, practices, environmental sanitation, informal sector participants*

1. Introduction

Environmental Sanitation is defined as the principles and practice of effecting healthful and hygienic conditions in the environment to promote public health and welfare, improve quality of life and ensures a sustainable environment, (Environmental and Public Health Watch, 2011). The essential components of Environmental Sanitation include: Solid waste management; Medical waste management; Food sanitation; Sanitary inspection of premises; Market and abattoir sanitation; Adequate potable water supply; Pest and vector control; Management of urban drainage; Control of reared and stray animals, Weed and Vegetation Control; Hygiene education and promotion excetera (Akinro, Ikumawoyi, Olotu , Ologunagba, 2012). The improvement in sanitation is known to have significant beneficial impact on health both in households and across communities and even in the niche of the working environment (Amoaning, 2006).

The failure of the numerous efforts to address the problem of Environmental Sanitation has been attributed to various factors. Prominent among these are: unhealthy socio-cultural practices; poor Environmental Sanitation education and awareness; low literacy level; bad governance over the years; disregard for the rule of law and other forms of indiscipline (Agagu, 2009).

Waste management is at the lowest ebb in most towns and communities. Most parts of the city centres do not benefit from public waste disposal services and therefore, have to bury or burn their waste or dispose it haphazardly. In most cities and peri-urban centres, refuse heaps are left unattended and where the Local Government Authorities do the collection, it is often irregular and sporadic. The recycling of waste is negligible while methods of storage, collection, transportation, compaction and final disposal are very unsatisfactory (Ladan, 2015).

The alarming rate at which heaps of solid waste continue to occupy our cities, coupled with the fact that 87% of Nigerians use disposal methods adjudged as insanitary, has not only constituted visual blight and odour nuisance, but also encouraged the breeding of rodents, mosquitoes and other pests of public health importance, with attendant disease outbreaks (Oyekan & Sulyman, 2015).

Furthermore, some of the waste materials are toxic; others are either non-biodegradable or not readily degradable such as "pure water" sachets and polythene shopping bags(Akinro, 2012,et al,) . Also included are

various types of industrial/chemical waste that can contaminate soil and ground water sources if not properly disposed. Other major concern is the generation of waste from health care institutions/facilities, which contain infectious/hazardous materials that pose potential hazards to human and environmental health when improperly disposed. The improper handling and disposal of medical waste is a major threat to refuse collectors and scavengers and can result in infections such as HIV/AIDS, hepatitis, tetanus, excetera (WHO, 2017).

The present paper is to examine the awareness and practice of environmental sanitation by informal sector participants in Barkin-ladi town plateau state, Nigeria. The improvement in sanitation is known to have significant beneficial impact on health both in households and across communities and even in the niche of the working environment (Amoaning, 2006). Pierre (2000) and Fekade (2000) have concluded that the prevailing waste management strategies have failed to take notice of the local knowledge. According to Lyse (2003) this has helped in compounding the waste management and scheme formulation problems instead of contributing to the solution of waste problems in Africa. This was supported by Duan and Fortner (2005) who observed that people possessed high environmental awareness and knowledge of local environmental issues than global environmental issues. The knowledge possess by a community refers to the understanding of any given phenomenon (Kaliyapermal, 2004), and so is the issue of sanitation.

2.0 Theoretical Framework

2.1 Attitude and Practice

In psychology, attitude is a psychological construct, a mental and emotional entity that inheres in, or characterizes a person (Richard, 2006). They are complex and an acquired state through experiences. It is an individual's predisposed state of mind regarding a value and it is precipitated through a responsive expression toward a person, place, thing, or event (the **attitude object**) which in turn influences the individual's thought and action (Wikipedia, 2017). Attitudes are formed as a result of this ongoing evaluative process. Based on this that attitudes are defined as evaluations of entities, including behaviour, that results in perceptions of favour or disfavour (Eagly and Chaiken, 1993). Attitudes also refer to a person's general feelings about an issue, University of Ghana <http://ugspace.ug.edu.gh> 40 object, or person (Petty and Cacioppo, 1981). Kaliyapermal (2004) studied the knowledge, attitudes and practices of a community and found that changes in attitudes and practices tell what people know about certain things, how they feel and also how they behave. Attitude refers to the feelings towards the subject as well as any preconceived ideas that they may have towards it. According to Aiken (2002) practices refer to the ways in which people demonstrate their knowledge and attitude through their actions. Understanding the levels of attitude and practice will enable more efficient process of awareness creation as it will allow research findings to be tailored more appropriately to the needs of the community as in this study. Attitudes are said to have a major impact on behaviour and one's ability to manage and adapt to change while also influencing the behaviour of others (Aiken, 2002). People can change their mind towards a higher plane or a lower plane according to their attitude towards a given situation, person or place or a concept (Aiken, 2002). Attitude is linked to our sense of belief and previous judgments. Attitude counts a lot in our individual and social life. We may say that our attitudes and inclinations are borne out of our experience or encounters with various aspects of life. Thus, Subramanian (2009) holds the view that our attitudes cannot be changed so long as our experiences remain so. Ever since the beginning of attitude research, investigators have puzzled over the relation between attitudes and behaviour. For instance, reasons that made people sometimes said they liked something and then acted as if they did not, such as the case where the media awareness creation about poor sanitation which the general public acknowledge, but do not practice proper sanitation in their surroundings.

2.2 Sanitation

Sanitation generally refers to the provision of facilities and services for the safe disposal of waste. It also means the maintenance of hygienic conditions, through service such as garbage collection and waste paper disposal World Health Organisation (WHO, 2010). Sanitation is a relatively broad concept involving among others the construction and use of sanitary facilities as a way of preventing diseases arising out of inappropriate hygiene habits such as poor disposal of plastic waste (Bukuluki, 1995). Sanitation could also be described as the process where people demand, effect and sustain a hygienic and healthy environment for themselves and others by erecting barriers to prevent the transmission of disease agents in order to lay foundation for sustainable development (Lancet, 2010).

Raudsepp (2001) found that women were significantly more likely than men to be concerned with environmental problems. Females have been consistently shown to have higher environmentally conscious attitudes and practices than men. The common reason advanced for gender differences is the different socialization patterns between boys and girls (Raudsepp, 2001; Diamontopoulos, Schlegelmilch, Sinkovics, and Bohlen, 2003). More often than not, girls are made to carry out most of all the sweeping and cleaning activities; they are called upon more than their male counterparts to perform maintenance tasks at home or in market

centres.

2.3 Informal sector

The informal sector is used to describe employment or livelihood generation primarily within the developing world. It was used to describe a type of employment that was viewed as falling outside of the modern industrial sector (Wikipedia, 2017). An alternative definition uses job security as the measure of formality, defining participants in the informal economy as those "who do not have employment security, work security and social security" (NCE, 2007). While both of these definitions imply a lack of choice or agency in involvement with the informal economy, participation may also be driven by a wish to avoid regulation or taxation. This may manifest as unreported employment, hidden from the state for tax, social security or labour law purposes, but legal in all other aspects (Williamms, 2005). The informal economy is being characterized by some form of non-compliant behavior with an institutional set of rules (Feige, 2009). Feige argues that circumvention of labor market regulations specifying minimum wages, working conditions, social security, unemployment and disability benefits gives rise to an informal economy that deprives some workers of deserved benefits while conveying undeserved benefits to others.

The term is also useful in describing and accounting for forms of shelter or living arrangements that are similarly unlawful, unregulated, or not afforded protection of the state. 'Informal economy' is increasingly replacing 'informal sector'(DIEC, 2011) as the preferred descriptor for this activity.

3. Method of Study

3.1 The study area

The study area is Barkin-ladi town (Gwol), which is located in Ropp District of the Local Government on coordinates: 9032'00"N and 8054'00"E (see figure 1). The town is situated on the high north central plateau with an average height of 1,200 meters above sea level. The area is blessed with a large exposure of basement complex rocks and some volcanic rocks. The rocks contain large deposit of minerals such as Tin and Colum bite. It is also characterized by gentle slope (undulating) flat surfaced with some granite hills and ridges owing to the mining activities that took place in the area. This gave way for the number of streams and ponds found in most parts of Barkin-ladi town.

The change in the economic and political status of the town has brought a corresponding increase in the number of its inhabitant. As one of the Local Government located within the mining region of the Jos plateau, it is endowed with abundant human and natural resources. The L.G.A. headquarter is surrounded by large number of abandoned mining ponds which are used as source of water for irrigation and domestic use. The town has grown from a mining settlement into a town centre with an approximate population of 17,885 (NPC, 2006)

3.2 Method of study

The data upon which the research results are described have come from both primary and secondary sources. The primary data was collected through the use of a questionnaire. The secondary data was sourced from published literature and desk top research. A reconnaissance survey was conducted in 2017 which provided the basis for the classification of informal commercial activities in the town, while sites where informal activities clustered in the town were mapped. Nine major spatial clusters were identified. From the reconnaissance survey, a total of 1,878 informal land use activities were identified which formed the sample frame for the study. Informal land use activities fall into three main categories: trading and commercial activities, cottage industries, and services.

4.0 RESULT AND DISCUSSION

4.1 Awareness of Environmental Sanitation among Informal Sector Operators in Barkin-Ladi Town

Virtually all the respondents were aware or have heard about environmental sanitation and majority of them, got their information about sanitation from the mass media such as the radio (24percent) and the television (19 percent); and next, from churches/mosque (17 percent). Market association/unions (13 percent), state government agencies (10 percent), local g government authority (7 percent), and bill board/posters (5 percent).

Table 1. Awareness of Environmental Sanitation among Informal Sector Participants in Barkin-Ladi town

s/no	Category	Number of response	Percentage
1	Radio	45	24
2	Television	36	19
3	Church/mosque	30	17
4	Market associations/unions	25	13
5	State government agencies	18	10
6	Local government authority	13	7
7	Bill boards/ Posters	10	5
8	Town criers	6	3
9	News paper	4	2
Total		187	100

Generally, a majority of the respondents (60.0%) had an overall moderate level of knowledge about environmental sanitation with only less than one quarter (22.9%) having an overall good level of knowledge.

4.2 Attitude and practice of Environmental Sanitation Observed by Respondents

It was revealed that 41 percent of the respondents observed weekly sanitation, 24 percent of them engaged in weekly sanitation. 19 percent engage in daily sanitation while 16 percent do not undertake any form of environmental sanitation (see figure 1). From the foregoing, it will be inferred that solid waste are disposed indiscriminately in open spaces and dumping in drainage. Only a selected few clean their environment and clear their drainage regularly apart from sanitation days most of the participants clean their premises weekly. Environmental Sanitation Practices by Informal sector entrepreneurs within the study area embark on environmental sanitation every Thursday of the week and every last Saturday of the month. This is done in accordance to the general rules laid out by the market association and market regulatory board and as such it is mandatory that sanitation is carried out on these days. However, information obtained from the administered questionnaires indicated that only a select few clean their environments and clear their drainage regularly apart from sanitation days. This implies that the environment generally remains dirty until the next sanitation day.

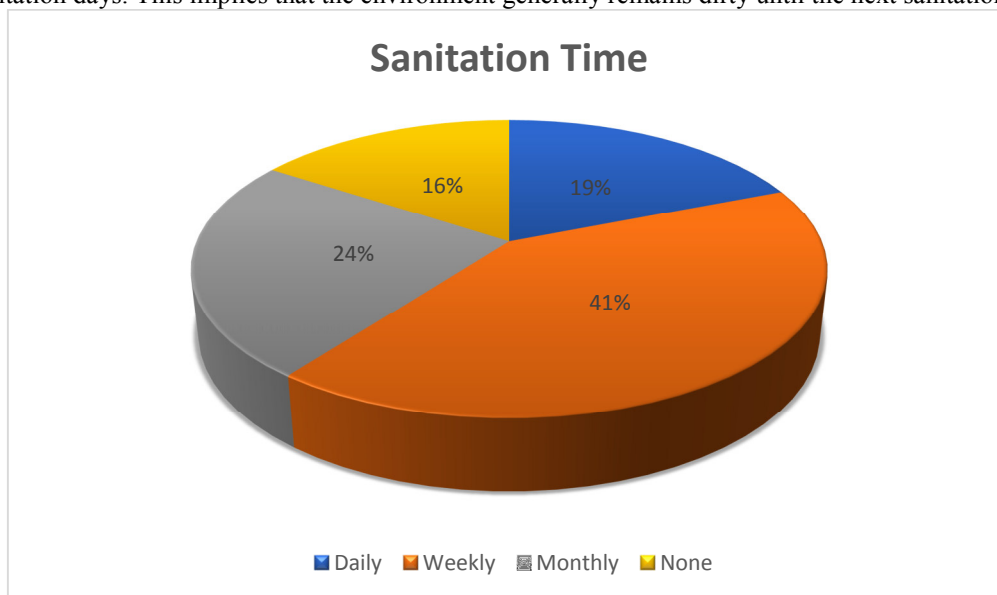


Figure 1: Frequency of Environmental Sanitation Observed by Respondents



Plate 1: Blocked drainage from informal sector activity

The poor surface drainage in urban areas as a result of informal land use activities, leads to stagnant pools where mosquitoes and other disease carrying vectors breed (see plate 1). Often in towns and cities, public drains are used as substitutes for toilets and waste disposal facilities. This causes blockage of the drains and is usually responsible for environmental problems such as flooding, erosion and landslide, which destroy homes built on marginal land, and causes major damage to public infrastructure and private property.

5.0 CONCLUSION AND RECOMMENDATIONS

This study established that the levels of Environmental sanitation knowledge, attitude and practice was moderate to poor; as a good level of knowledge and practice of environmental sanitation was only observed in less than one quarter of the respondents with just above one third of them having a good level of attitude and close to half having an erroneous perception that their level of environmental sanitation is good.

A lot of attention is still required in the area of environmental sanitation especially in developing countries like Nigeria, with respect to not only employing and promoting strategies that influence behavioral change through effective regular education and awareness campaigns that are targeted, appropriate and consistent; but also, by advocating for increased public-sector investments in basic sanitation infrastructures that is sustainable, well planned and coordinated. This will form the basis for adopting demand led approaches that will further empower informal sector participant to improve their own sanitation.

REFERENCES

- Agagu, O. K., (2009). Threats to the Nigerian environment: a call for positive action. Being a paper delivered at the 2009 Chief S.L. Edu Memorial Lecture, Nigerian Conservation Foundation, Lagos. 42pp
- Aiken, L. (2002). Attitudes and Related Psychosocial Constructs: Theories, Assessment, and Research Thousand Oaks, CA: Sage Publications
- Akinro, O.A; Ikumawoyi, O.B; Olotu Y, Ologunagba M.M (2012). Environmental Impact of Polyethylene generation and Disposal in Akure City, Nigeria. *Global Journal of Science Frontier Research Agricultural & Biology Vol 12, Issue 3.*
- Amoaning, R. (2006). Sanitation - Our Collective Responsibility. Presentation at CONIWASDANIDA. Workshop November 16, 2006. Kumasi, Ghana.
- DIEC (2011). "The Informal Economy: Fact Finding Study" (PDF). Department for Infrastructure and Economic Cooperation (DIEC). Retrieved 22 October 2017.
- Eagly A.H., and Chaiken, S. (1993). The Psychology of Attitude. Harcourt Brace Jovanovich College Publisher, New York.
- Environmental and Public Health Watch (2011), the Blog of Environmental and Public Health News, Opinion and Articles in Nigeria. <http://tsaftarmuhalli.blogspot.com.ng/2011/07/national-environmental-sanitation.html>
- Feige, E. L. (2016). "Reflections on the Meaning and Measurement of Unobserved Economies: What do we really know about the "Shadow Economy"?. *Journal of Tax Administration* (30/1).
- Fekade, W. (2000). Deficits in formal land management and informal responses under rapid urban growth: an international perspective. *Gender, environment and epidemiology in Greater Accra Metropolitan Area: Ghana.*
- Kaliyapermal, K., (2004). Guideline for Conducting Knowledge Attitudes and Practices. *The Behaviour Analyst*

- Today, Vol. IV, N o.1 January-March, 2004. Vol. IV, N o.1 January - March, 2004.
- Ladan M. T. (2015). Legal Issues in Environmental Sanitation and Waste Management in Nigeria: - Role of Environmental Courts. A paper presented at a 3-day national seminar for magistrates on environmental and sanitation laws in Nigeria organised by the National Judicial Institute, Abuja.
- Lyse, O. (2003). Waste disposal haunts cities. *Management in Third World Cities*. London and New York: Routledge.
- NCE (2011). Report on conditions of work and promotion of livelihoods in the unorganised sector. New Delhi: National Commission for Enterprises in the Unorganised Sector. Retrieved October, 2017.
- NPC (2006): Enumerators' Manual for 2006 Population and Housing Census. National Population Commission, Abuja.
- Oyekan T.K & Sulyman A.O (2015). Health impact assessment of community-based solid waste management facilities in Ilorin West Local Government Area, Kwara State, Nigeria. *Journal of Geography and Regional Planning Vol.8(2).pp 26-36*.
- Petty, R.E., and Cacioppo, J.T., (1981). *Attitudes and Persuasions: Classic and Contemporary Approaches*. Dubuque, IA: Wn. C. Brown.
- Pierre, J. (2000). *Debating governance: Authority, Steering and Democracy*. Oxford: Oxford University Press.
- Richard M. P. (2006). *The Dynamics of Persuasion: Communication and Attitudes in the Twenty-First Century*, Routledge, 2016.
- Subramanian, A., (2007). *Space and Rights in South India*. Stanford: Stanford University Press.
- WHO (2017). Health impacts of health-care waste retrieved from http://www.who.int/water_sanitation_health/medicalwaste/020to030.pdf on 12/12/2017
- Wikipedia (2017). Attitude (Psychology). Retrieved from [https://en.wikipedia.org/wiki/Attitude_\(psychology\)](https://en.wikipedia.org/wiki/Attitude_(psychology)) 23/11/2017
- Williams, C. C. (2005). *A Commodified World?: Mapping the limits of capitalism*. London: Zed Books. pp. 73, 74.