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Sanitation Practice Of Urban Dwellers In The Federal Capital Territory Of Nigeria

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ABSTRACT
This study assessed sanitation practices and implementation on the health of urban dwellers in the Federal Capital Territory (FCT). The study adopted a Reconnaissance survey design and direct field observation; which involved interview and physical assessment. An interview questionnaire was used for data collection and systematic sampling technique adopted to distribute the interview questionnaire by selecting at the interval of four households in each settlement. The data were analyzed using inferential statistics in the multivariate regression, simple percentages, and frequencies. The study revealed that well/boreholes were the major sources of water supply, water was stored mostly in closed containers and water system was common in the study areas. The study established that the sanitary conditions of the study areas are moderate despite some negative environmental practices that cause pollution and exposure to diseases; the heaps of refuse that are commonly seen in the study area have negative impacts on the beauty of the city. The study recommended that public enlightenment on environmental health education, review and update of existing legislations with respect to urban planning; building standards, infrastructures and environmental, regular collection of garbage will enhance sanitary conditions in the study area and Nigeria at large. Government should focused on maximizing welfare programmes that will ameliorate the sufferings of the people in respect to clean water sources and other basic infrastructure that will enhance their living standard, and appropriate mechanisms should be provided for local communities to work with the government to ensure changed sanitary attitudes and behaviours.
Keywords*:* Environmental Sanitation; Practices; Urban Dwellers

INTRODUCTION

Adequate sanitation, together with good hygiene and safe water, are fundamental to good health and to social and economic development. The World Bank (2018) defined sanitation as 'interventions to reduce people's exposure to diseases by providing a clean environment in which to live and with a measure to break the cycle of diseases. This usually involves safe management of human excreta, garbage, and wastewater, the provision of washing facilities for personal and domestic hygiene. It also involves both practices and facilities which work together to form a hygienic environment' (World Bank, 2018). Following the definition, urban sanitation has become one critical area of sustainable development that deserves assiduous attention due to three reasons which include (i) threat to human life that comes with poor sanitation, (ii) stretching global urban population density and (iii) heterogeneous characterizing features of urban demography.

Lack of sanitation leads to disease, as was first noted scientifically in 1842 in Chadwick's seminal ''Report on an inquiry into the sanitary condition of the labouring population of Great Britain''

(Chadwick, 1842). A less scientifically rigorous but nonetheless professionally significant indicator of the impact on health of poor sanitation was provided in 2007, when readers of the BMJ (British Medical Journal) voted sanitation the most important medical milestone since 1840 (Ferriman, 2007). The diseases associated with poor sanitation are particularly correlated with poverty and infancy and alone account for about 10% of the global burden of disease (Prussu et al., 2008). At any given time close to half of the urban populations of Africa, Asia, and Latin America have a disease associated with poor sanitation, hygiene, and water (WHO, 1999). Of human excreta, faeces are the most dangerous to health. One gram of fresh faeces from an infected person can contain around 106 viral pathogens, 106 –108 bacterial pathogens, 104 protozoan cysts or oocysts, and 10–104 helminth eggs (Feachem et al., 1983).

In addition to its impact on health, improved sanitation generates both social and economic benefits. Householders understand these wider benefits but scientists have only recently begun to study individuals' motivations for improving sanitation and changing sanitation behaviour. While the main goal of agencies' sanitation programming is to improve health, householders rarely adopt and use toilets for health-related reasons. Instead, the main motivations for sanitation adoption and use include the desire for privacy and to avoid embarrassment, wanting to be modern, the desire for convenience and to avoid the discomforts or dangers of the bush (e.g., snakes, pests, rain), and wanting social acceptance or status (Jenkins and Curtis, 2005; Jenkins and Scott, 2007).

Furthermore, for women, the provision of household sanitation reduces the risk of rape and/or attack experienced when going to public latrines or the bush to defecate, and for girls, the provision of school sanitation facilities means that they are less likely to miss school by staying at home during menstruation (Mahon & Fernandes, 2010). The economic benefits of improved sanitation include lower health system costs, fewer days lost at work or at school through illness or through caring for an ill relative, and convenience time savings (time not spent queuing at shared sanitation facilities or walking for open defecation) (Hutton et al., 2007).

In total, the prevention of sanitation and water-related diseases could save some $7 billion per year in health system costs; the value of deaths averted, based on discounted future earnings, adds another $3.6 billion per year (Hutton and Haller, 2004). Furthermore, in much of the developing world at any one time around half the hospital beds are occupied by people with diarrhoeal diseases (UNDP, 2006). Expressed at a national scale, poor sanitation and hygiene costs the Lao People's Democratic Republic 5.6% of its GDP per year (Hutton, 2009) and studies in Ghana and Pakistan suggest that general improvements in environmental conditions could save 8%–9% of GDP annually (World Bank, 2008). It is against this backdrop that this study sought to examine sanitation practices and implementation on the health of urban dwellers in the FCT. Nigeria is a developing African nation, with a population of over 198 million people (Ezeudu et al., 2019), has many urban and urbanizing cities where the developments in hygienic practices, sanitation, public utilities and health at large need to be monitored and/or continuously evaluated. This has become necessary as access to urban sanitation and its accompanying challenges is now a major daunting task in most cities in the Global South locations.

The Abuja Environmental Protection Board (AEPB) is charged with the care of the environment in Abuja. AEPB and other agencies (public and private) are not adequately equipped with sufficient materials required to cope with the increasing challenges of maintaining an environment free of health hazards and problems occasioned by poor sanitation. Several efforts have been made by the AEPB to ensure that the city is always clean. However, the behavior and attitude of the inhabitants towards sanitation do not augment this effort. People do not seem to care about good environmental sanitation practices and constantly litter indiscriminately, without considering the future effects of these poor sanitation practices on their health. Poor environmental sanitation is a serious health risk and an affront to human dignity. Adequate environmental sanitation practices are more than just an inconvenience. It allows users' knowledge and experience to design and manage the facilities and services and to increase the likelihood that the services will be used sustainably. Hence, the need to proffer solutions to Nigeria's urban sanitation problems as it related to the health of urban dwellers which are yet to receive adequate attention by stakeholders motivated this study. The study is critical in informing the government, policymakers,

urban planners, urban dwellers and other stakeholders on the need to rearrange their priorities in favor of sustainable urban sanitation and also recommend solutions and scientific guidance to the solutions.

Objectives

The main purpose of the study is to examine sanitation practices urban dwellers in the Federal Capital Territory of Nigeria. The specific objectives are as follows:

1. To assess the socio-demographic characteristics of the residents of the study area
2. To assess the sanitation practices of the residents across the study area
3. To document the environmental sanitation condition in the study area.

Research Questions

The study provided answers to the following research questions:

1. What are the socio-demographic characteristics of the residents of the study area?
2. What are the sanitation practices of the residents across the study area?
3. What is the environmental sanitation condition in the study area?

METHODOLOGY

Reconnaissance survey was conducted and oral interview was carried out on the residents of the study area. This enabled the researchers to determine the relevant issues to be addressed in the questionnaire and to ascertain the most appropriate sampling method and suitable statistical analysis to employ. The study adopted direct field observation; it involved interview and physical assessment. The interview questions were administrated on each selected household. The information collected on site formed the major bulk of the data. Other information was obtained from the Abuja Master Plan and maps were from the Abuja Geographic Information Systems (AGIS). The data were presented in tables and charts, while data analysis were carried using simple percentages, and frequencies in Microsoft excel. The exponential model formula ($Pn = P0 (1 + r/100)n$) was applied to project for the 2018 population to 3,761 as shown in Table 1. Where Pn is projected population, P0 is population of the base year, r is population growth rate and n is the number of years, which the population was projected (2018-2016= 2). This study collected socioeconomic data from the selected 233 households by interview. Systematic sampling technique was used to distribute the interview questionnaire by selecting at the interval of four households in each settlement. Data was analyzed using frequency and percentage.

RESULTS

The results of the study are presented below:

Table 1: Result of Survey Questions

Settlement	2016 population	2018 population	Selected household
Kuchigworo	2,102	2, 267	140
Garamajiji	1,385	1, 494	93
Total	3,487	3,761	233

Table 1 showed the result of the survey questions. The table revealed that overall, 233 households were selected with 140 selected from Kuchigworo and 93 from Garamajiji.

Figure 1: Environmental sanitation condition of the study area

Fig 1 showed environmental sanitation condition of the study area. The result showed that, more than 40% showed a clean environment, about 35% showed dirty, and about 15% showed very dirty environment.

Table 2: Socio-demographic Characteristics of the Respondents

Socio-demographic	**Frequency (F)**	**Percentage (%)**
Gender		
Male	114	48.9
Female	119	51.1
Total	233	100
Age		
19-29 years	23	9.9
30-39 years	139	59.7
40-49 years	56	24
≥50 years	10	4.3
No response	5	2.1
Total	233	100
Educational status		
None	2	0.9
Primary	72	30.9
Secondary	116	49.8
Tertiary	42	18
Non-response	1	0.4
Total	233	100
Occupation		
Student	17	7.3
Trading	83	35.6
Civil servant	71	30.5
Others	49	21
Non response	13	5.6
Total	233	100

Table 2 shows the distribution of demographic characteristics of the respondents, 114 respondents (48.9%) were male and 119 respondents (51.1%) were female. This is an indication of the role women play in sanitation management in the various households in the study area. Traditionally, women by African culture are saddled with the responsibility of handling environmental sanitation and with greater sensitivity towards environmental issues were fully involved in the study.

This implies that the women are the home managers and they handle the care of the environment. A further probe into this shows that 75.3% of the men do not know much about the management and disposal of waste in their houses. The study discovered that, where many details were required for garbage disposal, men indicated that they knew little and thus either failed to respond to some of the questions or called a woman to ask for specific answers. Age is expected to play a significant role as maturity could affect level of environmental awareness. Schultz et al. (2005) as well as Mayer and Frantz (2004) opined that the higher one's age, the more the person is concerned about the environment. This implies that older residents are expected to be more environmentally conscious than the younger counterparts. 23 respondents representing 9.9% of the respondents were between ages 19-29 years; while 59.7, 24.0, and 4.3% were between ages 30-39 years, 40-49 years, greater than 50 years, respectively. Five respondents (2.1%) did not respond on age group. Furthermore, a large percentage of the respondents had secondary school as their education status (49.8%) as shown in Table 2. Educational status of the respondents plays a significant role in environmental awareness. Studies such as Olofsson and Öhman (2006) as well as Theodori and Luloff (2002) opined that educated people are more concerned about the environment and place more emphasis on preserving the environment. The study also reveals that eighteen percent of the respondents have tertiary education while 30.9% have primary education and 0.9% no education. However, 0.4 of the respondents did not respond on the status of educational level obtained which may be attributed to shame of status.

The survey also revealed that 35.6% (83) of the respondents are traders and 30.5% (71) are civil servants. About 3% of the respondents are professionals; while 7% are welders and 14% of the respondents have mini-Jobs (tailoring, seller girls, house-help), which make up the 21% of others as shown on Table 2. Further probe reveals 5.65% of the respondents who did not respond are jobless and applicants. The study further revealed that 45.7% of the respondents were married, while 30% were single, 12.9% were widowed, and 11.4% divorced. This implies that a very young and active age group occupies the settlements.

Table 3. Source of Water and Method of Storage

Variables	Frequency	(%)
Source of water supply		
Community Tap	9	3.9
Well/boreholes	186	79.8
Others	38	16.3
Total	233	100
Method of water storage		
Open containers	14	6.1
Closed containers	176	75.5
Direct from source	24	10.3
Others	15	6.4
No response	4	1.7
Total	233	100

The major source of water in the study area was well/boreholes (79.8%) and only 3.9% get their water from community tap as shown in Table 3. The community taps (one at each settlement) was constructed by the FCT Administration under the millennium development goals (MDGs) Projects (FCDA, 2017).

This prevailing situation does not guarantee quality water supply in the area as the water obtained from these sources are not treated before used. Hence, the people stand a greater risk of serious water borne diseases. Also, further probe into the storage system for water reveals that 75.5% of the respondents store water in closed containers. There is less access to the community water as its centrally located and most residents found out waste of time to walk over 3km to take drinking water. This may be also the reason why most houses have borehole or well.

Table 4: Toilet Use and Toilet Hygiene Practices by Respondents

Toilet	**Frequency**	**(%)**	**Regularity of Washing**	**Frequency**	**(%)**
Water system	74	31.7	Daily	60	25.8
Pit latrine	127	54.6	Alternate days	130	55.8
Others	30	12.8	Weekly	32	13.7
Total	233	100	Occasionally	11	4.7
			Total	233	100
Toilet covered	**Frequency**	**(%)**	**What do you Use?**	**Frequency**	**(%)**
Always	26	11.2	Dettol	88	37.8
Sometimes	146	62.7	Izah	97	41.6
Never	60	25.7	Bleach	41	17.6
Total	233	100	Others	7	3
			Total	233	100

Table 4 reveals that 74 (31.7%) respondent had access to flush toilets, 127 (54.6%) make use of pit latrine. 62.7% of the respondents claimed that they sometimes covered their toilets, while 25.7% never covered their toilets. In addition, 13.7% washed toilets daily while 55.8% washed their toilet on alternate days with the use of Izah (41.6%) and Dettol (37.8%).

Table 5: Refuse disposal

How often is waste collected	**Frequency**	**(%)**
Daily	57	24.5
Once a week	108	46.4
Others	68	29.1
Total	233	100
Method of disposal		
Burning/incinerating	70	30.0
Open spaces/roadside	57	24.5
Controlled tipping	65	27.9
Others	41	17.6
Total	233	100

Table 5 showed the refuse disposal methods of the respondents. The result showed that, 40% dispose their refuse indiscriminately, out of which 30.0% burnt theirs within the residential environment thereby causing air pollution. 24.5% of the respondents dispose theirs in open spaces and drainages without minding the effect. The implications constitute breeding grounds for rodents, flies, mosquitoes, snake and harbour for other dangerous animals as well as cause serious degradation of the environment resulting in a myriad of health hazards. In addition, water sources near such waste dumps easily become contaminated and can lead to disease epidemic such as cholera and Lassa fever among others.

Furthermore, liquid wastes are poorly managed. Wastewater from bathrooms, laundries and kitchens are not properly disposed; hence, they constitute foul smelling water for breeding of mosquitoes and dirty ponds for pigs and ducks. Most of the residents affirmed to treating malaria fever several times yearly. Figure 4 reveals that 44.2% of the respondents are of the perception that their environment is clean, while 15.9% admitted to having very dirty environment when asked to assess the environmental sanitation condition of their area. Further probe reveals that the respondents have fair understanding of the effects of poorly kept environment. Majority of the respondents believe that the AEPB is not covering their locality and that only the waste disposed along the Airport Road are removed weekly. The study further questioned the respondents on the role of AEPB of which 92% agreed to know that the agency collects money from the traders. The study probes deeper into the environmental health knowledge of the respondents, 55% of the respondents agreed that the environment is not healthy but required more personal and community efforts to clean it up. The respondents also agreed that drying and eating are carried out along the dirty environment.

CONCLUSION

The study observed that well/boreholes were the major source of water supply and water was stored mostly using closed containers. Water system was found to be common in the areas. From the study, it can be established that the sanitary conditions of the study area is moderate although there were still some negative environmental practices like dumping of refuse indiscriminately, which causes pollution and exposure to diseases. In addition, the heaps of refuse that are seen commonly in the study area have a negative impact on the beauty of the city.

RECOMMENDATIONS

It is therefore recommended that a concerted effort on the part of the government should be focused on maximizing welfare policy programmes that would ameliorate the sufferings in the communities as regards access to clean water sources and other basic social infrastructure that would enhance living standard in the communities. Proper sensitization and environmental education should be given to citizens. There should be provision of local knowledge and institutions to address the design, siting and maintenance of new infrastructure, resolve conflicts and pay (in cash or kind) for running costs. Appropriate mechanisms should be provided for local communities to work with the government to ensure changed attitudes and behaviors (e.g., in school children, women, adolescents and men) that would support government action that may be necessary to ensure sustainability and in addition, put up actions to sensitize bureaucrats and politicians to support such initiatives, given the huge and complementary benefits of such action in tackling the very real WASH challenges that continue to exist in the region. All the aforementioned would bring about community involvement and private sector collaboration that would engender anticipated development and also affect the attitudinal approach towards ensuring a sustainable access to water and social infrastructures in the community.

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