



# ADVANCE AFRICAN RESEARCH BULLETIN

## Environmental Sanitation Practices among Households in Nyanya District, Abuja, Nigeria

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### Abstract

The study examined the environmental sanitation practices among households in Nyanya District, Abuja, Nigeria. Having adopted the cross-sectional survey research design, the study was conducted among households living within the Nyanya District and surrounding communities, and a questionnaire was used to gather relevant information among 353 respondents while descriptive statistics such as mean, percentage and frequency count were adopted for data analysis. The finding from the study revealed that The outcome showed that most respondents strongly agreed that environmental sanitation practices promote health (51.0%), improve the quality of the environment (53.8%), improve the quality of life in the community (46.2%), ensure the provision of appropriate sanitation facilities (37.7%), encourage appropriate waste disposal methods (52.4%), ensure clearance of drainage system for flow of water (48.2%) and help to create resilient communities (53.8%). Therefore, it was concluded that environmental sanitation practices remain essential to improving community well-being through effective community and individual participation. Hence, there is a need to enhance community awareness and education on environmental sanitation practices and develop and enforce policies and regulations on environmental sanitation.

**KEYWORDS:** Environmental Sanitation, Health, Solid Waste, Abuja

### Introduction

According to the World Health Organization (WHO) and United Nations Children Fund (UNICEF) (2019) definition of sanitation, which emphasises access to a facility that hygienically separates excreta from human contact, 2 billion people in the global population have no access to sanitation. Of this proportion, 673 million people, most of whom are in developing countries, engage in open defecation (WHO/UNICEF, 2019); in Sub-Sahara Africa (SSA), the picture is even gloomier (Mensah, 2020). The World Bank

(2016), cited in Abubakar (2017), reported that while the SSA's population nearly doubled from 1990 to 2015, access to improved sanitation increased by only six per cent in that period, making it the region with the lowest sanitation coverage (37%) in the world.

Environmental sanitation is the science and craft of using scientific ideas and biological and physical information to enhance and regulate the environment, safeguard public health, and promote welfare (Folakemi & Gbadegesin, 2023). Environmental sanitation's objectives include protecting natural resources and ensuring everyone lives in a safe, secure and sound environment. Poor sanitation harms the environment and human health and incurs significant economic costs (Folakemi & Gbadegesin, 2023). Several environmental sanitation techniques and methods are feasible to carry out<sup>4</sup>, including drainage, garbage management, vector control, and other practical techniques for managing public facilities, waste, waste treatment, and hygienic waste disposal. Albeit this range of available technologies and approaches, environmental sanitation must effectively promote individuals' behavioural and lifestyle changes. Hence, there is a need for a community-led approach to environmental sanitation<sup>5</sup> that is cost-effective and sustainable to provide a healthier lifestyle and environment (Folakemi & Gbadegesin, 2023).

Sclar et al. (2018) explore the relationship between sanitation and mental and social well-being and suggest that when people perceive or experience a lack of privacy or safety during open defecation or when using sanitation infrastructure, this can negatively influence their mental and social well-being. Environmental sanitation practices have been examined among various social systems, including communities and households (Daramola, 2016; Duru et al., 2017; Safo-Adu & Hanson, 2019; Nwaerema et al., 2023) and university students (Igudia et al., 2019; Widiyanti & Hartini, 2023; Nwadi et al., 2023) while their outcome indicated inadequate sanitation practices in many cases. According to Daramola and Olowoporoku (2016), poor environmental quality is increasingly

recognised as a significant threat to social and economic development and human survival. The impacts of environmental deterioration are even more severe in developing countries such as Nigeria, thus obstructing and destabilising socio-economic development (Sadiq *et al.*, 2018). Considering this, the present study examines the environmental sanitation practices among households in Nyanya District, Abuja, Nigeria.

## Materials and Method

### Study Area

The study was conducted in the Nyanya district of Abuja Municipal Area Council (AMAC), one of the Area Councils and the Capital City. Bounded on the East by Nasarawa State, on the West by the Kuje Area Council, and on the North by the Gwagwalada and Bwari Area Councils, the AMAC occupies a land mass of 1,200 Km<sup>2</sup>. The Karshi Development Area of the AMAC, on its part, is made up of the Karu, Nyanya, Orozo, and Karshi Districts.

### Research Design and Study Population

A cross-sectional survey research design was conducted among households living within the Nyanya District and surrounding communities (Angawa Bawa; Gbagarape; Kugbo; Nyanya Site-Area A-F; Nyanya Village/Gwandara; Nyanya Village/Gwari), based on the reported population size of Nyanya, estimated at 408,768 in 2017 (Veronica et al., 2020).

### Sample Method, Sampling Techniques and Sample Size

A sample is taken from a population to ensure a valid study. To get an optimum sample of the target population (408,768), the Taro Yamane (1967) formula for sample size determination will be adopted;

$$n = \frac{N}{1 + N (e)^2} \dots\dots\dots (3.2)$$

Where: e= Level of precision (0.05)

N= Population

n= Sample size

1= Constant

$$n = \frac{408768}{1 + 408768 (0.05)^2}$$

$$n = \frac{408768}{1 + 408768 \times 0.0025}$$

$$n = \frac{408768}{1 + 1021.92}$$

$$n = \frac{408768}{1022.92}$$

$$n = 399.9 \sim$$

$$n = 400$$

Therefore, a sample size of 400 respondents was adopted for the study. Using a simple random sampling technique in respondents' selection means chance alone determined who was included in the sample, removing any possibility of selection bias. The randomness of the sampling was achieved through sampling without replacement, in which every selected respondent had only one chance of selection.

#### *Data Collection*

The questionnaire was used to elicit information from respondents. The questionnaire was divided into sections. There was a section designed to collect information on the demographic characteristics of respondents to describe respondents in terms of gender, age, occupation, income, ethnicity and religion, while another section aimed at gathering information on the environmental sanitation practices among the communities in Nyanya district. The questionnaire adopted for the study made use of a closed-ended and Likert 4-point-scale format consisting of Strongly Agreed (SA-4), Agree (A-3), Disagreed (D-2), and Strongly Disagreed (SA-1).

#### *Data Analysis*

The retrieved questionnaires were coded and subjected to Statistical Package for the Social Sciences (SPSS) for proper analysis. The retrieved questionnaire coding was done

with MS Excel before being transferred to the SPSS data entry. Using the SPSS window (Version 22), descriptive statistics tools such as frequency counts, percentages of responses and charts were adopted for the analysis. Using such statistics allows the researcher to present the evidence of the study in a way that can be understandable and make a conclusion concerning the study variables (Baridam, 2001).

## **Results and Discussion**

Four hundred (400) questionnaires were administered among communities, and three hundred fifty-three (353) questionnaires were retrieved, representing an 88% retrieved rate of the administered questionnaire.

### *Socio-Demographic Details of Respondents*

The socio-demographic details of the respondents are presented in Figure 1. From the analysis, 51.8% of the respondents were male, while 48.2% were female. The age distribution shows that most respondents are between the ages of 30-40years, representing 40.8% of the total respondents. The marital status of the respondents indicated that most respondents are married (66.9%), while the educational qualification suggests that most respondents possessed secondary level education, representing 38.5% of the total respondents. Considering their primary occupation, the finding revealed that most respondents are into farming, representing 30.6% of the total respondents, while the significant household size in the community represents 37.7% of the respondents.

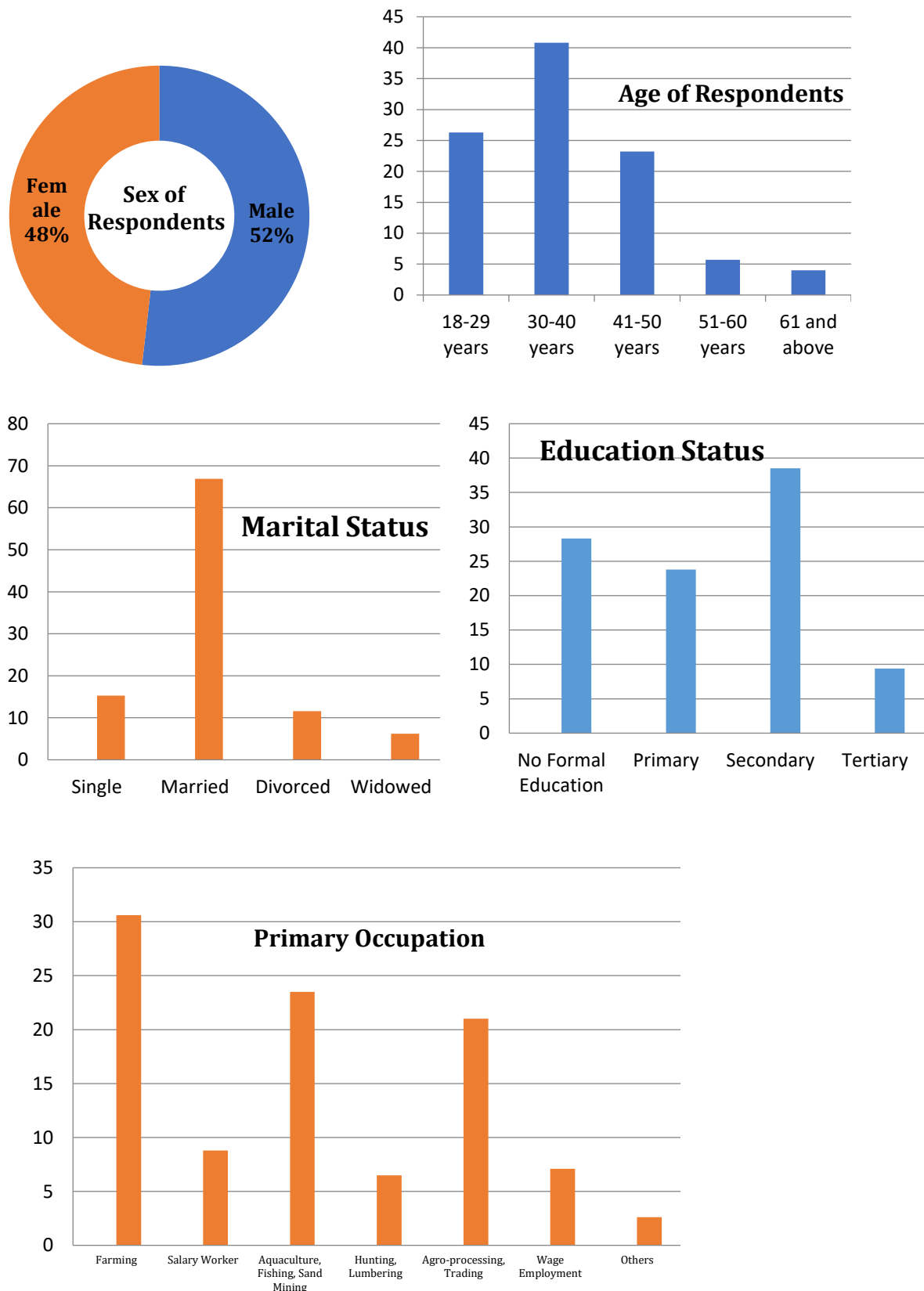


Figure 1: Socio-Demographic Details of Respondents

*Environmental Sanitation Practices*

The effect of environmental sanitation practices on the wellbeing of the people of Nyanya communities was analysed, and the outcome was presented in Table 1. The result revealed that most respondents strongly agreed that environmental sanitation practices promote health (51.0%), improve the quality of the environment (53.8%), improve the quality of life in the community (46.2%), ensure the provision of appropriate sanitation facilities (37.7%), encourage appropriate waste disposal methods (52.4%), ensure clearance of drainage system for flow of water (48.2%) and help to create resilient communities (53.8%). The outcome was similar to the notion of Abdallah and Bello (2023), who suggested that environmental sanitation can improve health, including preventing waterborne diseases, respiratory disorders, and carcinogens. On the other hand, Godspower et al. (2023) indicated that a poor environment or polluted environment has the potential to affect the soil, crops, aquatic life and air quality, which has an overall effect on the individual's health and wealth. Improving environmental sanitation significantly benefits households' and communities' health (Acheampong, 2010). Napari and Cobbinah (2014), Mmom and Mmom (2011) and Adah (2013) were of a convergent view that poor environmental sanitation causes diseases, reduces the life span of people and also increases mortality. Aduku (2014) and Faiza et al. (2015) viewed that poor environmental sanitation in schools affects both the intellectual and physical well-being of the students and there is a need for environmental education to educate students about good sanitation.

**Table 1:**Impact of Environmental Sanitation Practices on Wellbeing

| <b>Impact of Environmental Sanitation Practices on Wellbeing</b>                                 | <b>SA (%)</b> | <b>A (%)</b>  | <b>D (%)</b> | <b>SD (%)</b> | <b>Total</b> | <b>Mean</b> | <b>Remark</b> |
|--------------------------------------------------------------------------------------------------|---------------|---------------|--------------|---------------|--------------|-------------|---------------|
| Environmental sanitation practices promote health                                                | 180<br>(51.0) | 150<br>(42.5) | 10<br>(2.8)  | 13<br>(3.7)   | 353<br>(100) | 3.4         | Accept        |
| Environmental sanitation practices improve the quality of the environment                        | 190<br>(53.8) | 148<br>(42)   | 5<br>(1.4)   | 10<br>(2.8)   | 353<br>(100) | 3.47        | Accept        |
| Environmental sanitation practices improve the quality of life in the community                  | 163<br>(46.2) | 120<br>(34.0) | 40<br>(11.3) | 30<br>(8.5)   | 353<br>(100) | 3.18        | Accept        |
| Environmental sanitation practices ensure the provision of appropriate sanitation facilities     | 133<br>(37.7) | 120<br>(34.0) | 40<br>(11.3) | 60<br>(17.0)  | 353<br>(100) | 2.92        | Accept        |
| Environmental sanitation practices encourage appropriate waste disposal methods                  | 185<br>(52.4) | 150<br>(42.5) | 10<br>(2.8)  | 8 (2.3)       | 353<br>(100) | 3.45        | Accept        |
| Environmental sanitation practices ensure clearance of the drainage system for the flow of water | 140<br>(39.7) | 170<br>(48.2) | 33<br>(9.3)  | 10<br>(2.8)   | 353<br>(100) | 3.27        | Accept        |
| Environmental sanitation practices help to create resilient communities                          | 190<br>(53.8) | 148<br>(42.0) | 5<br>(1.4)   | 10<br>(2.8)   | 353<br>(100) | 3.47        | Accept        |
| Grand Mean                                                                                       |               |               |              |               |              | 3.31        |               |

## Conclusions

Sustainable sanitation is a basic human need and essential to health and development. Environmental sanitation practices remain essential to improving community wellbeing through effective community participation. The study considered how environmental sanitation practices influence wellbeing and concluded that such practices promote individual and community health, improve the quality of the environment, encourage the provision of appropriate sanitation facilities and improve waste disposal methods. There is a need for government implementation of community-led total sanitation initiatives to enhance community awareness and education on environmental sanitation practices and to develop and enforce policies and regulations on environmental sanitation.

## References

Abdallah, M. S. and Bello, S. A. (2023). Environmental Pollution in Nigeria: Issues and Solutions. *ARCN Internatioonal Journal of Sustainable Development*, 13 (10), 1 – 47



- Abubakar, I. R. (2017). Access to sanitation facilities among Nigerian households: Determinants and sustainability implications. *Sustainability*, 9, 547
- Daramola, O. (2016) : Conceptual modelling of residents' environmental sanitation behaviour in a Nigerian metropolis. *Economic and Environmental Studies*, 16 (2), 207-227
- Daramola, O. and Olowoporoku, O. (2016). Environmental sanitation practices in Osogbo, nigeria: an assessment of residents" sprucing-up of their living environment. *Economic and Environmental Studies* 16(4) 699 – 708
- Duru, C. B., Iwu, A. C., Diwe, K. C., Uwakwe, K. A., Merenu, I. A., Madubueze, U. C., Okedo-Alex, I. N., Ndukwu, E. U., Ohale, I. and Nwaigbo, E. (2017) Environmental sanitation practices: A case study of solid waste management in semi-urban communities in Orlu, Imo State Nigeria. *Occupational Diseases and Environmental Medicine*, 5, 88-105. <https://doi.org/10.4236/odem.2017.54009>
- Godspower, I., Tsaro, K. M. B., & Famous, O. (2023). Spatial Assessment of the Perception of Environmental Pollution in Rivers State. *Journal of Geoscience and Environment Protection*, 11, 10-20. <https://doi.org/10.4236/gep.2023.1110002>
- Igudia, E. O, Agbonifoh, J. A., Omobude-Idiado, S. N. (2019). Sanitation Practices Among University of Benin Undergraduate Students, Nigeria. *Journal of Health Education Reseacrh & Development*, 7: 304
- Mensah, J. (2020). Theory-anchored conceptual framework for managing environmental sanitation in developing countries: Literature review. *Social Sciences & Humanities Open* 2:100028. <https://doi.org/10.1016/j.ssaho.2020.100028>
- Nwadi, C.L.; Attah, B. I.; Ugwu, E. I.; Nwakpadolu, G. M.; & Ezekoye, R. O. (2023). Perceived influence of hostel sanitation practices on students' health at the university of Nigeria, Nsukka. *Journal of Family and Society Research*, 2 (2), 34 – 45

- Nwaerema P., Ikoro, J. N., Fred-Nwagwu, W. F., Jiya, S. N., Oye, I., Dangana K., Adama, C. K. (2023). Perception of environmental sanitation and communication Practice in Port Harcourt Rivers State, Nigeria, *British Journal of Multidisciplinary and Advanced Studies: Sciences*, 4(2),12-22. doi: <https://doi.org/10.37745/bjmas.2022.0125>
- Sadiq Q. O., Ezeamaka C. K., Daful M. G., Anjide T. W., Sani H. and Ogbole M. (2018). Environmental sanitation practices in Kuchigworo and Garamajiji along airport road, Abuja. *Journal of Geography and Regional Planning*, 11(11), 172-182. doi: 10.5897/JGRP2018.0711
- Safo-Adu, G. & Hanson, R. (2019). Practices and knowledge about environmental sanitation and hygiene among urban dwellers in Gomoa east district, Ghana. *European Journal of Earth and Environment*, 6 (1)
- Sclar, G. D., Penakalapatia, G., Carusoa, B. A., Rehfuess, E. A., Garna, J. V., Alexandera, K. T., Freemana, M. C., Boissone,S., Medlicotte, K. and Clasena. T. (2018). Exploring the relationship between sanitation and mental and social wellbeing: A systematic review and qualitative synthesis. *Social Science & Medicine* 217 (2018) 121–134. <https://doi.org/10.1016/j.socscimed.2018.09.016>
- Widiyanti, B. L., and Hartini, H. (2023). Environmental sanitation knowledge of environmental engineering's students at Hamzanwadi University. *IOP Conf. Series: Earth and Environmental Science*, 1190. doi:10.1088/1755-1315/1190/1/012007
- WHO/UNICEF. (2019). Progress on household drinking water, sanitation and hygiene 2000- 2017. Special focus on inequalities. New York: United Nations Children's Fund (UNICEF) and World Health Organization (WHO).
- World Bank. (2016). World development indicators featuring the sustainable development Goals; Databank. Washington, DC, USA: World Bank Group.