



## East African Journal of Environment and Natural Resources

[eajenr.eanso.org](http://eajenr.eanso.org)

Volume 5, Issue 2, 2022

Print ISSN: 2707-4234 | Online ISSN: 2707-4242

Title DOI: <https://doi.org/10.37284/2707-4242>

**ENSO**

EAST AFRICAN  
NATURE &  
SCIENCE  
ORGANIZATION

Original Article

## Environmental Health Practices in Traditional Area: The Tale of Ile-Ife, Nigeria

Oluwole Daramola<sup>1\*</sup>, David Mobolaji<sup>1</sup>, Abdulazeez Lawal<sup>1</sup> & Kayode Idowu<sup>2</sup>

<sup>1</sup> Obafemi Awolowo University, P.M.B. 13. Ile-Ife Nigeria.

<sup>2</sup> Ajayi Crowther University P.M.B 1066, Oyo Town, Oyo State, Nigeria.

\* Correspondence ORCID ID: <https://orcid.org/0000-0002-7275-3269>; email: [damololaji@gmail.com](mailto:damololaji@gmail.com)

Article DOI: <https://doi.org/10.37284/eajenr.5.2.989>

**Date Published: ABSTRACT**

02 December 2022 This study assessed environmental health practices in the traditional city of Ile-Ife, Nigeria. The 22 residential areas in the city of Ile-Ife were stratified into the core, transition, and suburban zones. A systematic sampling technique was used in selecting 327 respondents for questionnaire administration across the residential zones. Findings revealed that there were poor environmental health practices among the residents, although with variation across the residential zones. This is based on their socioeconomic characteristics and level of access to environmental health facilities. The study recommended adequate provision and equitable distribution of environmental health facilities across the residential zones to ensure easy access to them. Also, there should be particular consideration for the provision of environmental health facilities in the core area of the city, where most residents are low-income earners.

**Keywords:**  
*Environmental Health, Nigeria, Residential Zones, Traditional City.*

### APA CITATION

Daramola, O., Mobolaji, D., Lawal, A., & Idowu, K. (2022). Environmental Health Practices in Traditional Area: The Tale of Ile-Ife, Nigeria. *East African Journal of Environment and Natural Resources*, 5(2), 124-132. <https://doi.org/10.37284/eajenr.5.2.989>.

### CHICAGO CITATION

Daramola, Oluwole, David Mobolaji, Abdulazeez Lawal and Kayode Idowu. 2022. "Environmental Health Practices in Traditional Area: The Tale of Ile-Ife, Nigeria". *East African Journal of Environment and Natural Resources* 5 (2), 124-132. <https://doi.org/10.37284/eajenr.5.2.989>.

### HARVARD CITATION

Daramola, O., Mobolaji, D., Lawal, A., & Idowu, K. (2022) "Environmental Health Practices in Traditional Area: The Tale of Ile-Ife, Nigeria", *East African Journal of Environment and Natural Resources*, 5 (2), pp. 124-132. doi: 10.37284/eajenr.5.2.989.

#### IEEE CITATION

O. Daramola, D. Mobolaji, A. Lawal & K. Idowu. "Environmental Health Practices in Traditional Area: The Tale of Ile-Ife, Nigeria", *EAJENR*, vol. 5, no. 2, pp. 124-132, Dec. 2022.

#### MLA CITATION

Daramola, Oluwole, David Mobolaji, Abdulazeez Lawal and Kayode Idowu. "Environmental Health Practices in Traditional Area: The Tale of Ile-Ife, Nigeria". *East African Journal of Environment and Natural Resources*, Vol. 5, no. 2, Dec 2022, pp. 124-132, doi:10.37284/eajenr.5.2.989.

## INTRODUCTION

In most developing countries, poor environmental quality is gradually becoming a threat to health and well-being. In Nigeria alone, a cursory glance revealed that the majority of people living in a sub-optimal environment, owing to their behaviour of improper domestic wastewater discharge, throwing of used bottles to drain, street littering with solid waste, and poor sewage disposal (UNEP, 2007; Daramola & Olowoporoku, 2016). These behaviours promote unhealthy living conditions and have given rise to many environmental health challenges. A worrisome statistic shows that about 122,000 Nigerians including 87,000 children less than five years die annually due to diarrhoea and cholera. Although Nigeria accounts for only 2% of the world's total population, she accounts for some 10% of the world's infant and maternal mortality (WaterAid, 2017). These worrisome health challenges, however, are evidence of poor environmental health practices.

Environmental health practices refer to peoples' involvement in the utilisation and maintenance of environmental health facilities in the environment. The practices ensured a clean, safe, and orderly environment through the utilisation of adequate environmental health facilities and good practices. In other parlance, it involves the collective programs and processes that contribute to the operational effectiveness of environmental health activities in an environment (WHO, 2006; Kulabako et al., 2010). The utilisation of environmental health facilities plays a vital role in promoting healthy living, and people's participation depends on the variability in individual responses.

Scholars have explored studies on promoting healthy living in cities all over the world. These studies focused on environmental health hazards with effects on the vulnerable population (Woods et al., 2016; Saracci, 2017), environmental sanitation (Munir, 2015; Daramola & Olowoporoku, 2016), environmental health risk assessment and management (Narain, 2012; Dong, 2015), and urban and rural environmental health (National Institute of Health, 2006; Bernhard & Gohlke, 2013). These studies have examined approaches to healthy living but with little consideration of people's behaviour towards their environment. However, studies on environmental health habits are not well documented, especially in traditional cities of developing nations, particularly Nigeria.

Based on these, it is evident that the provision of environmental health facilities could at best be referred to as a means to an end. The utilisation and management of environmental health facilities, attitudes, and behavioural practices of the people determine the end. Therefore, in order to achieve a healthy environment, good environmental health behaviour and the availability of environmental health facilities must work in harmony. This relationship is essential for sustainable healthy living through people's involvement in programs and processes that contribute to the operational effectiveness of environmental health facilities in the environment. Good environmental health practices give people a sense of belonging and control over their environment, ensure effective participation and active engagement, and also go beyond inconvenience. Therefore, environmental health practices are determined by people's socioeconomic attributes and access to environmental health facilities. Hence, this study

examined environmental health practices in the traditional city of Ile-Ife, Nigeria.

## MATERIALS AND METHOD

The study area, Ile-Ife, is one of the largest and most popular towns in the Osun State of Nigeria. The town lies between Latitude 7°26'N and 7°32'N and within Longitude 4°29'E and 4°35'E. Ile-Ife is a traditional city widely regarded as the cradle of the Yoruba race, a dominant ethnic group in Nigeria located in its southwestern part and covered by two Local Governments – Ife Central and Ife East. The two LGAs contain 22 residential areas.

As common to most typical traditional African cities, three homogeneous residential zones are identified in Ile-Ife (Afon, 2008). These are; core, transition, and sub-urban residential zones. The level of development in the residential zones varies with the different historical periods common in African countries: pre-colonial, colonial, and post-colonial. Each of the zones is distinctively homogeneous with respect to physical layout, housing characteristics, and environmental health facilities. Due to distinct attributes, environmental health practices varied in each residential zone.

Data collection for the study was through questionnaire administration. The 22 residential areas in the city of Ile-Ife were stratified into the core, transition, and suburban zones. As typical of a traditional African city, each zone developed over time as a result of social, economic, and technological changes. Eight (8), ten (10), and four (4) residential areas were identified in the core, transition, and suburban zones, respectively. Due to homogeneity, one area was selected in each of the residential zones. A systematic sampling method was used in selecting households in every 20th building from the identified zones. As a result, 327 respondents were surveyed on which questionnaire was administered.

Issues addressed in the questionnaire include residents' socioeconomic characteristics, access and

availability of environmental health facilities and environmental health practices across the residential zones in the study area.

## RESEARCH FINDINGS

This section discusses the profile of the respondents, access and availability of environmental health facilities, and environmental health practices. The parameters, number of respondents, and frequency of findings were arranged in *Table 1- 3*.

### Profile of the Respondents

The profile of the respondents was based on the residents' socioeconomic and housing characteristics (gender, occupation, age, marital status, academic qualification, household size and income). Studies established that there exists a relationship between individuals' behaviour towards the environment and socioeconomic characteristics (Ahern & Galea, 2011; Daramola & Olowoporoku, 2016). Based on the above rationale, this study assessed the profile of the residents across the residential zones of Ile-Ife, Nigeria.

As presented in Table 1, findings on the gender of respondents revealed that 47.7% were male while 52.3% were female. The findings revealed that the majority (52.3%) of the respondents were females, and could be attributed to the fact that females were traditionally attributed to the responsibility of handling environmental practices and with greater sensitivity towards their environment. However, the differences in gender across the three residential areas were statistically insignificant through the chi-square  $\chi^2$  value of 0.572;  $p = 0.751$ . This shows that the residential zones do not influence gender variation.

The age of respondents was also considered an important factor in residents' environmental health practices. Environmental health surveys in developed and developing parts of the world have established that different age groups play a significant role in environmental health practices.

Scholars have also concluded that age is expected to play a significant role as people’s maturity could affect the level of environmental health awareness and practises (Mayer & Frantz, 2004). Findings revealed that teenagers (less than 20 years), young adults (20-39), elderly adults (40-59 years), and old people accounted for 9.7%, 18.6%, 47.5% and 24.2%, respectively. The majority (47.5%) of the respondents were mature adults who were more concerned about environmental health activities in their respective residential zones. The result of the Analysis of Variance (ANOVA) (F=0.638 and p=0.530) confirmed this.

Further findings into the educational attainment of respondents revealed that 9.2% had primary education, 27.8% had secondary education, and 63.0% had tertiary education. The findings implied that respondents were knowledgeable, and this could be a result of the highest priority being placed on educational attainment in the study areas. The result of the chi-square test ( $\chi^2$  value of 10.088;  $p = 0.259$ ) confirmed that there is variation in educational distribution across the residential zones and was statistically significant.

**Table 1: Profile of Respondents**

Parameters		Residential Zones			Total
		Core	Transition	Sub-Urban	
Gender	Male	51 (47.2)	78 (45.6)	27 (56.3)	156 (47.7)
	Female	57 (52.8)	93 (54.4)	21 (43.7)	171 (52.3)
	Total	108 (100.0)	171 (100.0)	48(100.0)	327 (100.0)
Age	≤ 20	11 (10.1)	16 (9.3)	05 (10.4)	32 (9.7)
	20 – 39	17 (15.7)	32 (18.7)	12 (25.0)	61 (18.6)
	40 – 59	38 (35.1)	94 (54.9)	23 (47.9)	155 (47.5)
	60 – Above	42 (39.1)	29 (17.1)	08 (16.7)	79 (24.2)
	Total	108 (100.0)	171 (100.0)	48(100.0)	327 (100.0)
Educational Attainment	Primary	18 (16.7)	10 (5.8)	2 (4.2)	30 (9.2)
	Secondary	34 (31.5)	47 (27.5)	10 (20.8)	91 (27.8)
	Tertiary	56 (51.8)	114 (66.7)	36 (75.0)	206 (63.0)
	Total	108 (100.0)	171 (100.0)	48(100.0)	327 (100.0)
Average Monthly Income	≤ #30,000	15 (13.9)	29 (16.9)	3 (6.3)	47 (14.4)
	≤ #60,000	31 (28.7)	45 (26.3)	12 (25.0)	88 (26.9)
	≥ #61,000	62 (57.4)	97 (56.8)	33 (68.7)	192 (58.7)
	Total	108 (100.0)	171 (100.0)	48(100.0)	327 (100.0)
Number of Years Spent in the Study Area	≤ 15 years	26 (24.1)	30 (17.5)	8 (16.7)	64 (19.6)
	15 – 30 years	10 (9.3)	44 (25.7)	11 (22.9)	65 (19.9)
	≥ 30 years	72 (66.6)	97 (56.8)	29 (60.4)	198 (60.5)
	Total	108 (100)	171 (100)	48(100.0)	327 (100)
Household Size	1-5	16 (14.8)	128 (74.9)	40 (83.3)	184 (56.3)
	6-10	81 (75.0)	32 (18.7)	8 (16.7)	121 (37.0)
	Above 10	11 (10.2)	11 (6.4)	-	22 (6.7)
	Total	108 (100)	171 (100)	48(100.0)	327 (100)
Type of House Occupied	Detached Bungalow	22 (20.4)	69 (40.4)	28 (58.3)	119 (36.4)
	Semi-Detached Bungalow	16 (14.8)	42 (24.6)	10 (20.8)	68 (20.8)
	Story Building	58 (53.7)	35 (20.5)	2 (4.2)	95 (29.1)
	Duplex	12 (11.1)	25 (14.5)	8 (16.7)	45 (13.7)
	Total	108 (100)	171 (100)	48(100.0)	327 (100)

Another identifiable factor in environmental health practices is the average monthly income of residents. Findings revealed that 19.6% earned less than ₦30,000 while 26.9% earned below ₦60,000 and 58.7% earned above ₦61,000 in the different residential areas. Further findings on the mean monthly income across the residential zones revealed that the mean monthly income in the core, transition, and suburban areas were ₦29,320, ₦56,570, and ₦78,350. In summary, it can be inferred that the average monthly income of respondents increased as the distance increased from the core to the suburban. As a result, the results of the ANOVA test [ $F(118, 2) = 9.286, p = 0.004 < 0.05$ ] revealed that there was a significant difference in the monthly income of respondents across the three residential areas.

The years of length of stay of residents were categorised into three ( $\leq 15$  years; 15-30 years;  $\geq 30$  years). The findings revealed that respondents that have spent less than 10 years, 15 to 30 years, and above 30 years constituted 19.6%, 19.9%, and 60.5%, respectively. The majority (60.5%) have stayed above 30 years and were capable of giving out information about their environment.

### Access to Environmental Health Facilities

Access to and availability of environmental health facilities has implications for the health practices of

people. As presented in *Table 2*, findings were made to the residents' access to environmental health facilities in the study area. Besides from that, findings were also made to the available environmental health facilities. This is because the availability of environmental health facilities may influence residents' environmental health practices.

Across the residential areas, 87.6% of the respondents have a water supply in their home, while 12.4% does not have a water supply. The percentage of residents without access to a water supply is minimal in the transition and suburban zone except in the core, with 24.08%. The sources of water supply are common across the residential zones but dig well are the predominant sources in comparison to the other sources. The majority (79.81%) have toilet facilities in their home, while fewer 20.19% do not have toilet facilities in their home. On the type of toilet facilities available, 53.33% of the respondents across the residential zones used the flush toilet and 46.67% used pit latrine. Accordingly, 91.48% and 57.10% of the respondents in the transition and suburban zone used flush toilets. However, the overall percentage of respondents with flush toilets is less than the proportion of residents (74.16%) with pit latrines in the core zones.

**Table 2: Residents' Access to Environmental Health Facilities**

Facilities			Residential Zones			
			Core	Transition	Suburban	Total
Availability of Water	Yes		82 (75.92)	150 (87.71)	46 (95.83)	278 (85.01)
	No		26 (24.08)	21 (12.29)	2 (4.17)	49 (14.99)
	Total		108 (100.0)	171 (100.0)	48 (100.0)	327 (100.0)
Source of Water Supply	Tap water		11 (10.47)	47 (30.92)	12 (29.26)	70 (23.48)
	Well water		77 (73.33)	68 (44.73)	7 (17.07)	152 (51.01)
	Borehole		14 (13.33)	31 (20.39)	20 (48.78)	65 (21.81)
	Water Vendor		03 (2.87)	6 (3.96)	02 (4.89)	11 (3.70)
	Total		*105 (100.0)	*152 (100.0)	*41 (100.0)	*298 (100.0)
Availability of Toilets	Yes		84 (77.78)	130 (76.02)	47 (97.91)	261 (79.81)
	No		24 (22.22)	41 (23.98)	1 (2.09)	66 (20.19)
	Total		108 (100.0)	171 (100.0)	48 (100.0)	327 (100.0)



Facilities		Residential Zones			
		Core	Transition	Suburban	Total
Type of Toilet Available	Flush Toilet	23 (25.84)	86 (57.71)	43 (91.48)	152 (53.33)
	Pit Latrine	66 (74.16)	63 (42.29)	04 (8.52)	133 (46.67)
	Total	*89 (100.0)	*149 (100.0)	*47 (100.0)	*285 (100.0)
Availability of Waste disposal Facilities	Yes	101 (93.52)	94 (54.97)	42 (87.5)	237 (72.47)
	No	07 (6.48)	77 (45.03)	06 (12.5)	90 (27.53)
	Total	108 (100.0)	171 (100.0)	48 (100.0)	327 (100.0)
Type of Waste Disposal Facilities	Container with Lid	15 (13.89)	49 (28.65)	22 (45.83)	86 (26.29)
	Container without lid	21 (19.44)	21 (12.28)	12 (25.00)	54 (16.51)
	Polythene Bag	05 (4.62)	35 (20.48)	08 (16.67)	26 (7.95)
	Baskets	67 (62.05)	66 (38.59)	06 (12.50)	131 (40.06)
	Total	108 (100.0)	171 (100.0)	48 (100.0)	327 (100.0)

*\*These were less than number of questionnaires administered because some residents did not have such facilities.*

Findings were also made on residents' access to waste disposal facilities in their homes. In the core, 93.52% have access to waste disposal, while fewer than 6.48% do not have access to waste disposal facilities. In the suburban zone, the majority (87.5%) have access to waste disposal facilities, whereas only a few (12.5%) do not have access to waste disposal facilities. But the proportion of respondents (45.03%) without access to waste disposal facilities in the transition area is greater than in the core and suburban. On the type of waste disposal facilities, in the core and transition zones, 62.05% and 38.59% store their waste in a basket. Unlike in the suburban where 45.83% of the predominant type of waste disposal is a container with a lid. These could be attributed to the fact that the suburban is more cosmopolitan and comprises residential buildings of a high standard with a reasonable level of adequate provision of amenities compared with the core and transition zones (Daramola, 2012; Daramola & Olawuni, 2017; Mobolaji, 2020). Also, 40.06% of the respondents across the residential zones stored their refuse in the basket.

### Residents' Environmental Health Practices

Presented in *Table 3* are the findings on the residents' environmental health practices in the

study area. On the average daily water used, data were categorised into; 1-100 litres, 101-200 litres and above 200 litres. These findings revealed that, in the core, 65.74% of the respondents used between 1 – 100 litres of water daily. In the transition and suburban, 63.15% and 66.67% of the respondents used between 101 – 200 litres of water daily in their homes, respectively. However, 49.23% of the respondents in the different residential zones used between 1 – 200 litres of water daily. Further findings on the average daily water revealed 89 litres in the core, 101.1 litres in the transition and 146.6 litres in the suburban. The overall mean household daily water consumption was 112.2 litres. This is further established by the ANOVA results ( $F=12.32$ ;  $p < 0.00$ ), which indicated that the average daily water used varies in different homes. Thus, these findings also revealed that, across the residential zones, residents do not consume the benchmark of 150 litres needed in a home for personal hygiene in order to avoid infirmity and death, as established by the Institute of Water for Africa and the UN (2016).

Findings were also made on the period used by residents to clean toilets in their homes, and it was categorised into; daily, weekly, and monthly. The proportion of residents across the residential zones

that clean their toilets daily and monthly is the same. Also, in the transition and suburban zone, 67.92% and 54.34% of residents clean their toilets weekly, respectively. However, 56.10% of the respondents across the residential zones clean their toilets weekly except in the core, where the majority (57.15%) clean their toilets monthly. The inconsistent period of toilet cleaning in the study area is a potential means for the breeding of diseases and pathogens. On the method of waste disposal,

findings revealed that, in the core and transition, 32.38% and 43.78% of the respondents disposed of their waste on available dump sites. This method is different as the majority (43.15%) in the suburban burned their waste openly, while fewer (2.37%) employed the house-to-house collection method. Nevertheless, 18.01% of the respondents across the three residential zones carry out their waste disposal through other means, which has implications for people's health.

**Table 3: Residents' Environmental Health Practices**

Practices		Residential Zones			
		Core	Transition	Suburban	Total
Average litres of water used daily	1 -100	71 (65.74)	52 (30.40)	13 (27.08)	136 (41.59)
	101 - 200	21 (19.44)	108 (63.15)	32 (66.67)	161 (49.23)
	Above 200	16 (14.82)	11 (6.43)	3 (6.25)	30 (9.18)
	Total	108 (100.0)	171 (100.0)	48 (100.0)	327 (100.0)
Period of cleaning toilets	Daily	06 (6.59)	39 (24.52)	20 (43.47)	65 (21.95)
	Weekly	33 (36.26)	108 (67.92)	25 (54.34)	166 (56.10)
	Monthly	52 (57.15)	12 (7.56)	01 (2.19)	65 (21.95)
	Total	*91 (100.0)	*159 (100.0)	*46 (100.0)	*296 (100.0)
Method of waste disposal	Burning	42 (20.00)	50 (24.87)	41 (43.15)	133 (26.28)
	House-to-House Collection	-	-	12 (12.63)	12 (2.37)
	Dumping on site	68 (32.38)	88 (43.78)	31 (32.63)	187 (36.95)
	Burying	52 (24.76)	30 (14.92)	01 (1.07)	83 (16.39)
	Others	48 (22.86)	33 (16.43)	10 (10.52)	91 (18.01)
	Total	**210 (100)	**201 (100)	** 95 (100)	** 506 (100)
Period of waste disposal	Daily	28 (25.92)	52 (30.40)	10 (20.83)	90 (27.52)
	Weekly	60 (55.57)	101 (59.06)	38 (79.17)	199 (60.85)
	Monthly	20 (18.51)	18 (10.54)	-	38 (11.63)
	Total	108 (100.0)	171 (100.0)	48 (100.0)	327 (100.0)
Period of cleaning drains	Daily	03 (3.37)	03 (2.93)	-	06 (2.63)
	Weekly	49 (55.05)	18 (17.47)	11 (30.56)	78 (34.21)
	Monthly	21 (23.59)	71 (68.93)	22 (61.11)	114 (50.01)
	Every 6 months	16 (17.99)	11 (10.67)	03 (8.33)	30 (13.15)
	Total	*89 (100.0)	*103 (100.0)	36 (100.0)	*228 (100.0)
Period of sweeping the environment	Daily	46 (42.59)	35 (20.46)	02 (4.18)	83 (25.38)
	Weekly	38 (35.18)	99 (57.89)	07 (14.58)	144 (44.03)
	Monthly	24 (22.23)	06 (3.50)	29 (60.41)	59 (18.04)
	Every 6 months	-	31 (18.15)	10 (20.83)	41 (12.55)
	Total	108 (100.0)	171 (100.0)	48 (100.0)	327 (100.0)

\*These were less than number of questionnaires administered because some residents did not have such facilities.

\*\*This exceeded the number of questionnaires administered because residents identified more than one source.

Findings were also made to the period of waste disposal in the study area. The findings revealed that respondents disposed of waste daily, weekly, and monthly, thereby constituting 27.52%, 60.85% and 11.63%, respectively. These findings further revealed that the majority (60.85%) disposed of their waste weekly while fewer 11.63% carried out their waste disposal every month. Also, findings were also made to the period of drain cleaning in the study area. The period of cleaning drains includes daily, weekly, monthly and every 6 months, which constituted 2.63%, 34.21%, 50.01% and 13.5%, respectively. Daily cleaning of drains occurred in the core and transition areas; nonetheless, residents in the suburban area do not clean their drains daily. The period of cleaning of the drain varies across each residential zone. The findings were further established by the ANOVA results ( $F=30.10$ ;  $p < 0.00$ ), which indicated that the period of cleaning of drains varies significantly with residential zones.

Sweeping of the environment is considered an environmental health practice because it reduces the volume of waste that is littering and scattering the streets. This is because an unkept and unswept environment will breed pathogen and diseases which is harmful to people's health. Findings on the period of sweeping of the environment revealed that respondents sweep their environment daily, weekly, monthly and every 6 months, which constituted 25.38%, 44.03%, 18.04%, and 12.55%, respectively. The majority (44.03%) sweep their environment weekly, while fewer (12.55%) sweep their environment every 6 months. In the core, 42.59%, 35.18% and 22.33% sweep their environment on a daily, weekly, and monthly basis. Also, in the transition and suburban, respondents swept their environment every 6 months, which constituted 18.15% and 20.83%, respectively. In all, respondents in the core and transition zone are consistent with weekly sweeping of their environment except in the suburban where 60.41% sweep their environment monthly. The findings

revealed that the sweeping of the environment is not consistent in the residential zones.

## CONCLUSION AND RECOMMENDATION

This study assessed environmental health practices in the traditional city of Ile-Ife, Nigeria. Findings revealed that socioeconomic characteristics (gender, age, length of stay, and income) of residents and their level of access to environmental health facilities varied across the residential zones. Regardless of the residential zone, there was a low level of access to environmental health facilities, coupled with residents' socioeconomic characteristics, which influenced residents' environmental health practices in the study area. It can be concluded that there were poor environmental health practices among the residents, although with variation across the residential zones. This is based on their socioeconomic characteristics and level of access to environmental health facilities.

Based on this conclusion, the study recommended adequate provision and equitable distribution of environmental health facilities across the residential zones to ensure easy access to them. Also, there should be particular consideration for the provision of environmental health facilities in the core area of the city, where most residents are low-income earners.

## FUNDING

There is no external funding for the research.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## REFERENCES

- Afon, A. O. (2008). Intra-Urban variation in solid waste storage practice in Nigerian traditional city: the case of Ogbomoso. *Journal of The*



- Nigerian Institute of Town Planners*, 21(1), 104-129.
- Ahern, J. & Galea, S. (2011). Collective efficacy and major depression in urban neighbourhoods. *American Journal of Epidemiology*, 173(12), 1453-1462.
- Bernhard, M. C., & Gohlke, J. M. (2013). Identifying Environmental Health Priorities in Undeserved Populations. *A Study of Rural Versus Urban Communities*, 994-1004.
- Daramola, O. P. (2012). Clapping With One Hand: The Case of Urban Environmental Sanitation Practices in Nigeria. *Journal of Applied Technology in Environmental Sanitation*, 2(4), 223-228.
- Daramola, O. P., & 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), 699-716.
- Daramola, O., & Olawuni, P. (2017). Assessing the water supply and sanitation sector for post-2015 development agenda: a focus on Lagos Metropolis, Nigeria. *Environ Dev Sustain*. <https://doi.org/10.1007/s10668-017-0077-8>.
- Dong, Z. (2015). Uncertainties in Human Health Risk Assessment of Environmental Contaminants: A Review and Perspective.
- Kulabako, R. N., Nalubega, M., Wozzi, E., & Thunvik, R. (2010). Environmental health practices, constraints and possible interventions in periurban settlements in developing countries – a review of Kampala, Uganda, *International Journal of Environmental Health Research*, 20(4), 231- 257, <https://doi.org/10.1080/09603120903545745>
- Mayer, F. S., & Frantz, C. M. (2004). The Connectedness to Nature Scale: A Measure of Individuals' Feeling in Community with Nature. *Journal of Environmental Psychology*, 24, 503-515.
- Mobolaji, D. O. (2020). Residents' Perception of Physical Planning Regulations in Ile-Ife, Nigeria. *A Bachelor Science Thesis submitted to the Department of Urban and Regional Planning, Obafemi Awolowo University, Ile-Ife, Nigeria*.
- Munir, S. M. (2015). An Examination of Environmental Sanitation and its Health Hazards in the Polytechnic, Ibadan.
- Narain, J. P. (2012). The Challenge of Health and Environment: Profiling Risks and Strategic Priorities for Now and the Future.
- National Institute of Health (2006). Rebuilding the Unity of Health and the Environment in Rural America. *Workshop Summary*.
- Saracci, R. (2017). The hazards of hazard identification in environmental epidemiology. *Environmental Health*.
- UNEP (2007): *Global Environment Outlook 4: Environment for Development*. Nairobi: United Nations Environment Programme.
- Woods, M., Crabbe, H., Close, R., Studden, M., Milijevic, A., Leonardi, G., and Chalabi, Z. (2016). Decision Support for Risk Prioritisation of Environmental Health Hazards in a UK City.
- WaterAid, (2017). An Approach to Sanitation Marketing Report in Nigeria.
- WHO (2006). Guidelines for the Safe Use of Wastewater, Excreta and Grey Water. France.