ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

ENVIRONMENTAL CONDITIONS AND QUALITY OF LIFE IN WARRI SOUTH-WEST: AN INVESTIGATION INTO SOCIO-ECONOMIC IMPACTS AND SUSTAINABLE HOUSING CHALLENGES

Amina Nkechi Okafor

Department of Geography, Taraba State University Jalingo, Nigeria

Abstract

This study investigates the relationship between environmental conditions and the quality of life of residents in Warri South-West, Delta State, Nigeria. A multi-stage random and systematic sampling procedure was utilized, and sixteen communities were selected for the administration of questionnaires. These questionnaires aimed to gather data on the variations in residential environmental conditions and quality of life. Additionally, interviews were conducted with local chiefs from three wards to provide insights into the comparative quality of life in the area. Data analysis involved simple descriptive statistics, cross-tabulation of variables, and testing hypotheses using analysis of variance and multiple regression. The findings revealed a significant relationship between environmental conditions and residents' quality of life, with socio-economic factors such as educational attainment, household size, and income influencing these conditions. However, no relationship was found with age and marital status. The study highlighted that the poor environmental setting is a critical barrier to sustainable housing, exacerbated by frequent environmental disasters. The study recommends increased public awareness, particularly during the state's environmental sanitation exercises, to encourage better waste management practices, such as discouraging waste disposal in drains and on roadsides.

Keywords: Environmental conditions, Quality of life, Warri South-West, Sanitation, Socio-economic factors

Introduction

Environmental challenges have become a significant concern worldwide, especially in developing countries such as Nigeria, where the negative impact of poor environmental management is felt on a daily basis. Environmental quality, which encompasses factors such as sanitation, water quality, waste disposal, and air pollution, plays a crucial role in shaping the health, wellbeing, and overall quality of life of residents in a community. In particular, riverine and rural areas in Nigeria have been heavily affected by these environmental issues, leading to a variety of public health concerns, economic setbacks, and social inequalities. Addressing environmental challenges is not only important for improving the living standards of the citizens but also essential for ensuring sustainable development.

According to the World Health Organization (WHO, 2011), approximately 2.4 billion people around the world lack access to basic sanitation and environmental hygiene, with many of them residing in developing countries,

particularly in sub-Saharan Africa. Inadequate sanitation leads to the disposal of human excreta in unsanitary conditions, often directly into rivers or nearby open spaces. In such areas, environmental conditions become deteriorated due to poor waste management practices, affecting both the physical and mental health of the population. In Nigeria, these conditions have led to the spread of preventable diseases, underdevelopment, and an overall decline in the quality of life.

The riverine and rural areas of Nigeria are particularly vulnerable to environmental degradation due to a combination of natural and anthropogenic factors. Rural communities often lack access to basic infrastructure, including clean water, efficient waste management systems, and proper sewage disposal. Inadequate access to these vital services not only worsens environmental quality but also exacerbates the vulnerability of residents to diseases such as cholera, typhoid, and malaria. The lack of access to safe drinking water, in particular, has become a significant issue in rural areas, where most residents depend on borehole water and open wells. However, the safety of these water sources remains uncertain, as contamination from both natural and human-made sources continues to pose serious risks to public health.

The negative effects of poor environmental conditions extend beyond health. The degradation of the environment also impacts the socioeconomic development of communities. Poor environmental conditions are directly linked to poverty, as they hinder the productive potential of communities and limit access to essential services. In rural areas, where agricultural activities form the backbone of the local economy, polluted water sources and unsanitary conditions undermine agricultural productivity and the overall livelihood of the population. As a result, residents in these areas struggle to meet their basic needs, leading to cycles of poverty that are difficult to break.

Improved environmental conditions have been shown to have a profound impact on the overall quality of life of individuals and communities. Studies have demonstrated that when communities have access to adequate sanitation facilities, waste management services, and clean water, the incidence of disease decreases, and the general health of the population improves. WHO (2006) reported that 24% of global diseases are attributed to environmental exposures, many of which are preventable through the adoption of proper environmental management practices. Additionally, the quality of life in communities is strongly influenced by the availability and accessibility of basic services such as clean water, safe sanitation, and effective waste management systems. Ensuring the proper management of these services is critical to reducing the environmental burden on individuals and improving overall health outcomes.

The concept of the quality of life encompasses not only physical health but also social, economic, and emotional well-being. A high quality of life is generally associated with the availability of essential resources such as food, shelter, education, healthcare, and clean water. In developing countries such as Nigeria, the lack of these basic necessities leads to a lower quality of life, as residents often face challenges in accessing clean

water, healthcare services, and proper sanitation. According to the Human Development Index (HDI), Nigeria ranks 152nd out of 187 countries in terms of the quality of life, indicating that the overall standard of living in the country is far from ideal.

The situation in many Nigerian cities, particularly in rural and riverine areas, is exacerbated by a lack of adequate infrastructure, ineffective waste management systems, and poor hygienic practices. This creates an environment where diseases spread easily, and residents are forced to cope with unsafe living conditions. In the case of Warri Southwest, a local government area in Nigeria, poor environmental conditions have resulted in a degraded quality of life for the residents. The absence of basic amenities, such as potable water and efficient waste disposal systems, has contributed to environmental degradation and worsened living standards. Consequently, residents of Warri Southwest face numerous challenges in accessing clean water, maintaining personal hygiene, and ensuring proper sanitation, which in turn affects their health and wellbeing.

Access to safe drinking water remains one of the most pressing environmental challenges in many developing countries, and Nigeria is no exception. Groundwater, which is a primary source of drinking water for many rural communities in Nigeria, is highly susceptible to contamination from both natural and anthropogenic sources. Contaminants such as heavy metals, nitrates, and pathogens often find their way into groundwater systems, rendering the water unsafe for consumption. In many rural areas, including parts of Yenagoa metropolis, residents rely heavily on borehole water, which, while an essential resource, is often contaminated by various environmental factors. These contaminated water sources pose a serious threat to public health and further exacerbate the already poor environmental conditions in the area.

The relationship between environmental conditions and quality of life is complex and multifaceted. Environmental quality directly impacts the physical and mental health of individuals, their access to basic services, and their ability to lead fulfilling lives. In turn, the quality of life influences social and economic outcomes, as healthy individuals are more likely to participate in productive activities and contribute to the development of their communities. Therefore, addressing environmental challenges is crucial not only for protecting public health but also for promoting sustainable development and improving the overall quality of life for residents in Nigeria.

In conclusion, the poor environmental conditions in Nigeria, particularly in rural and riverine areas, have serious implications for public health, economic development, and overall quality of life. Access to clean water, proper sanitation, and efficient waste management systems is essential for improving environmental quality and reducing the burden of disease in these communities. Moreover, addressing environmental issues in Nigeria requires a concerted effort from both the government and local communities to improve infrastructure, promote sustainable practices, and ensure the effective management of natural resources. By

doing so, it will be possible to enhance the quality of life for residents in these areas, reduce the risk of environmental diseases, and promote sustainable development in the long term..

2. Materials and Method

Study Area

The study area is located between Latitude 5^0 15'N and 5^0 20'N of the equator and Longitude 5^o 05^1E and 5^o 47'E of the Greenwich meridian (See Fig. 1). The area is underlain by the Agbada Akata and Basin formations. It is made up of sedimentary rock types, and the terrain is about 4m above sea level. The area experiences the equatorial climate with a mean annual rainfall of about 3000mm with a mean temperature of 28^{oc} and displays a maximum rainfall in the months of July and September, Iloeje (1981).

There has been a tremendous growth in the population of 116,651 from the population census figure of 2006 with a projected figure of 175,723 using the annual growth rate of 3.2% by 2019. The major occupation of the populate is fishing and subsistence farming. However, there has been a shift from these two occupations to oil exploration, and as a result, the youth has turned their attention to contract jobs in most of the oil companies located in the area.

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

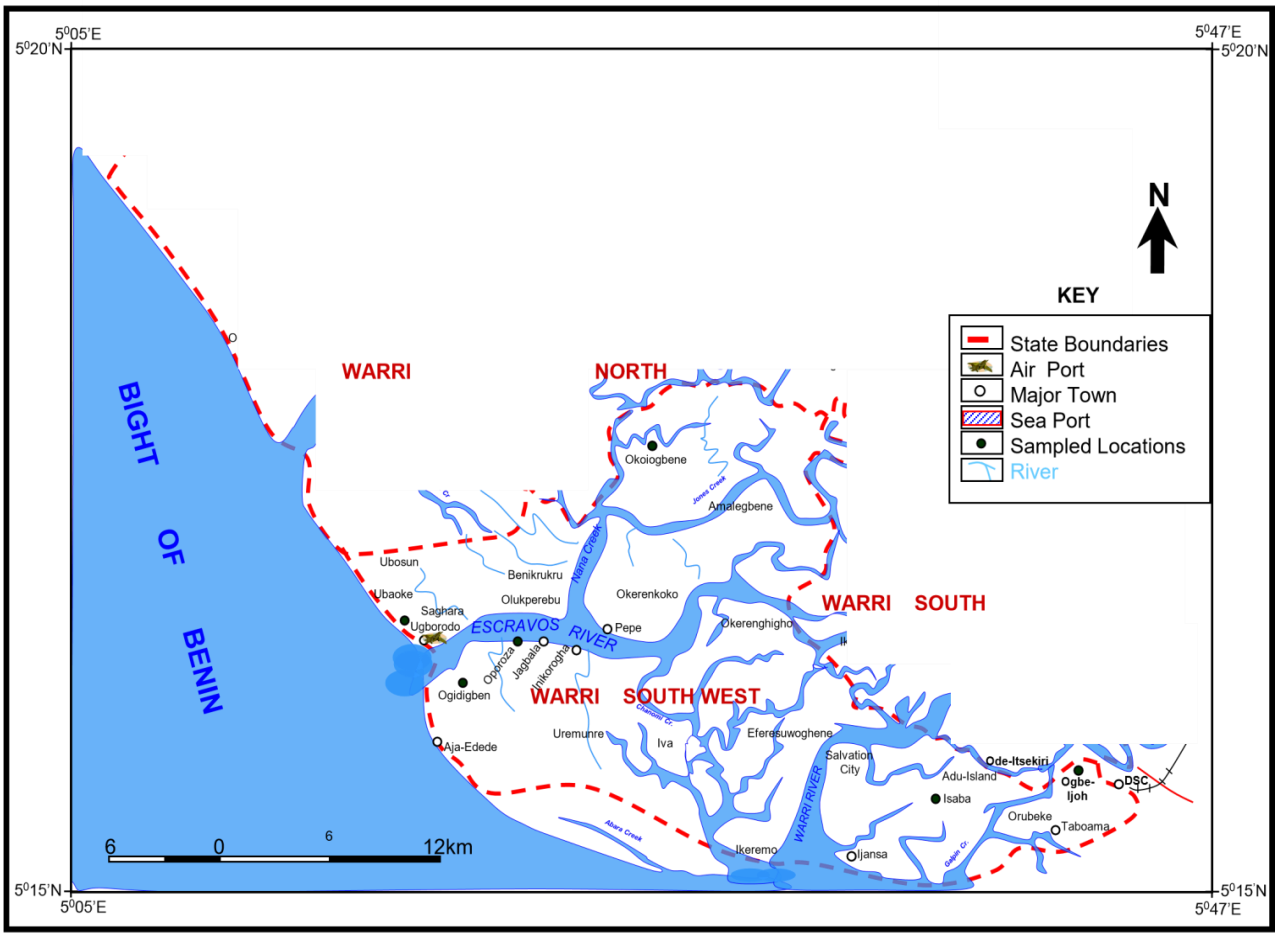

Figure 1: Map of Warri South-West Showing, Some Major Communities Sampled Source: Ministry of Lands, Survey and Urban Development, Asaba (2010)

Data was generated through the administration of questionnaires and also interviews. The questionnaire that was administered provided information on the pattern of variations in residential environmental conditions and quality of life. Whereas interview was conducted with local heads chiefs of three wards on the category of quality of life compared to other wards, which to some extent gave a basis for overview.

The direct delivery and retrieval method was employed in the administration of the instruments. Five research assistants were engaged to assist the researcher in the administration of the instrument in each of the 16 selected

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

communities. The research assistants constituted indigenes of the communities selected. They were briefed on the purpose of the exercise and trained on how to assist the respondents in filling the questionnaire and in cases where respondents are not literate. An interpreter in the local language was used to mediate between the researcher and the respondents.

However, out of the Five hundred and twenty (520) copies of the questionnaire administered, only four hundred and eighty (480) copies were correctly filled and returned.

The data was displayed in tables and statistical diagrams, and percentages, mean, analysis of variance, and multiple regression were used to examine it.

3. Results and Discussion

The Socio-Economic Characteristics of Respondents in Warri South-West

This section of the results reports the socio-economic and demographic characteristics of the respondents that make up the 16 communities under study. Results for marital status and level of Education, age cohorts, occupations, income level and household sizes are presented.

Marital Status of Respondents

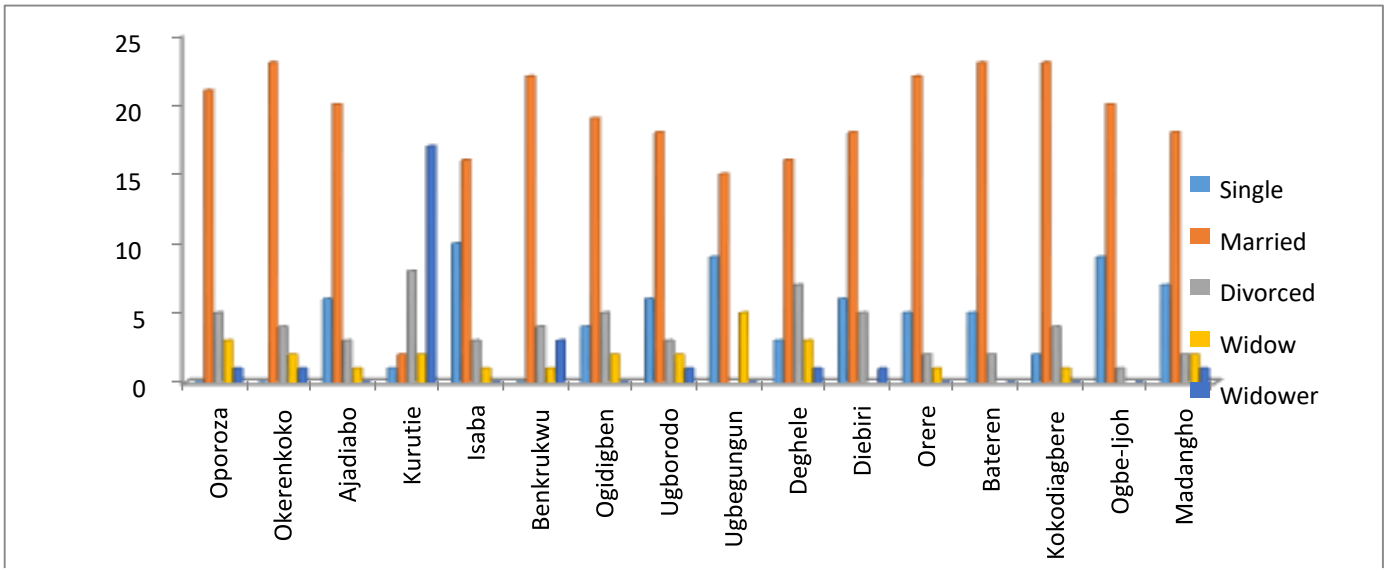

Figure 2: Marital Status of Respondents

Figure 2 presents the marital status of the respondents. It shows 15% are single respondents, 62% are married respondents, 12% are divorced, while 6% and 5% of the respondents are widows and widowers, respectively. It is evident from the presentation that there are more married respondents in the entire study. This marital structure is expected to give a vivid view about housing and environmental quality in the study area as living

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

together as a spouse in a particular environment could enhance an agreed view or perception about any given geographic environment, in this case, housing and environmental quality.

Level of Education of Respondents

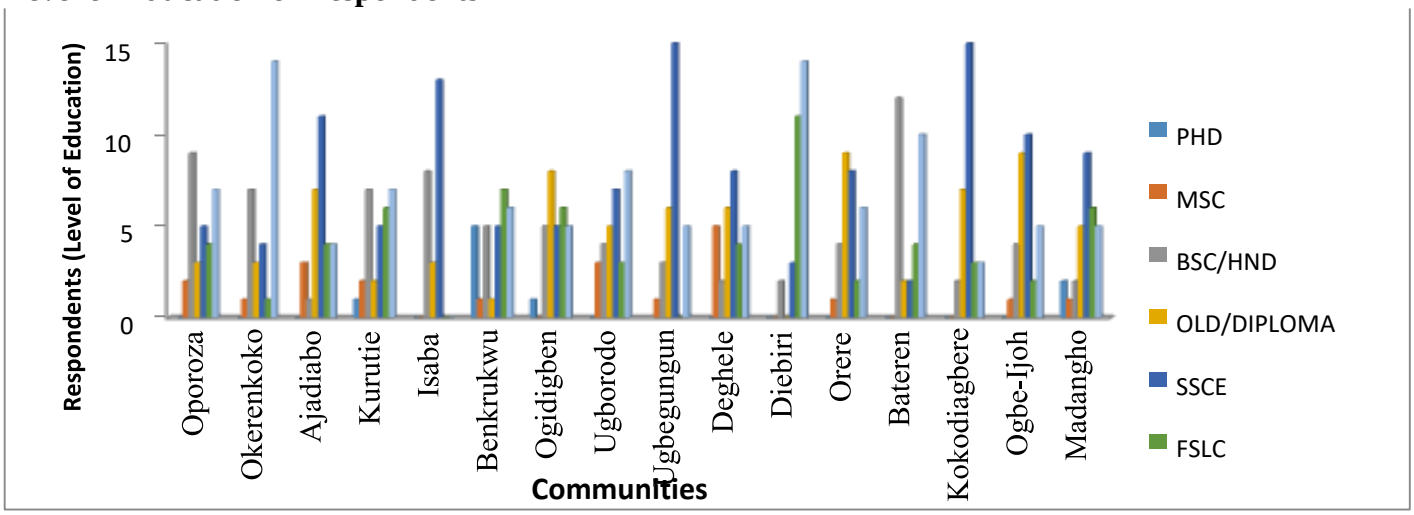

Figure 3: Level of Educat ion of Respondents

Figure 3 indicates that the level of Education in the study area. From the figure, 2% of entire respondents are PhD holders, while 4.4% were M.Sc holders, BSc/HND holders were 7% of the entire respondents drawn from all 16 communities combined. However, 16% of the entire respondents were Ordinary Level Diploma graduates, while 26% of the entire respondents were SSCE holders. This group comprised people from all the communities. First School Leaving Certificate (FSLC) holders were 13% of the entire respondents. Meanwhile, 22% of the entire respondents do not have a formal education. The level of Education of respondents is above average as the number of respondents with secondary school education is high together with those with certificates, diplomas and degrees. This may impact the views of the respondents in terms of their score for the aesthetic value of their environment.

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

Age of Respondents

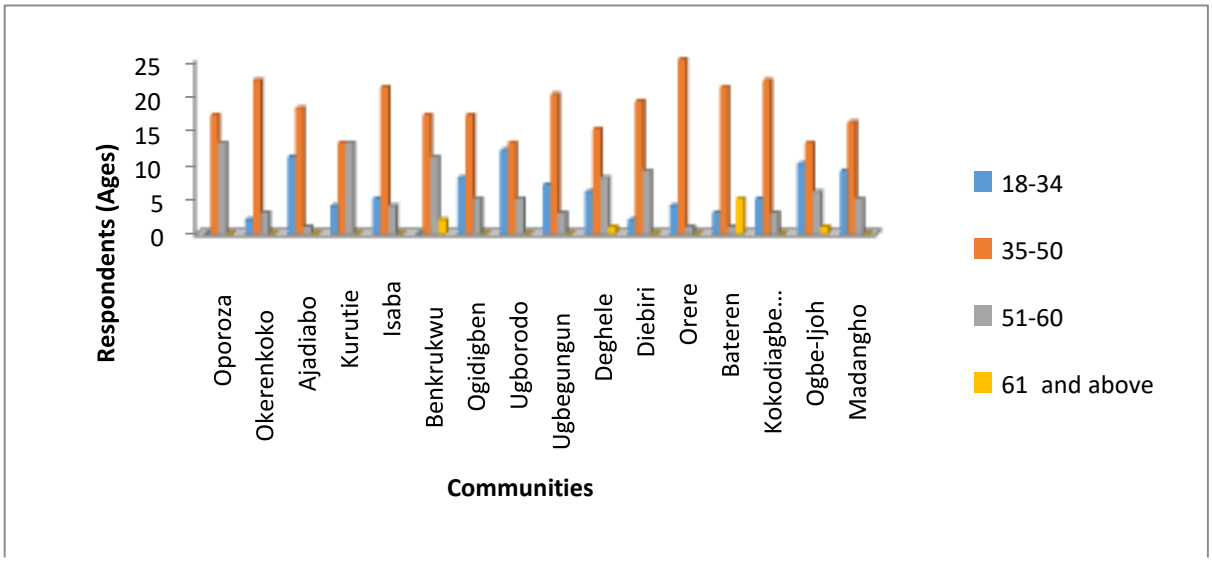

Figure 4: Age Cohorts of Respondents

Figure 4 shows the age cohorts of the respondents of the study. From the figure, 18.5% of the respondents are within the age cohort of 18-34 years. Meanwhile, 60.5% of the respondents are within the age cohorts of 35-50 years. 19% of the respondents are within the age cohort of 51-60 years, while 2% of the respondents are within the age cohorts above 60 years. With this pattern of the age distribution of the respondents in the active age cohorts, it is expected that they will generate the needed quality information about the housing and environmental quality of their dwelling.

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

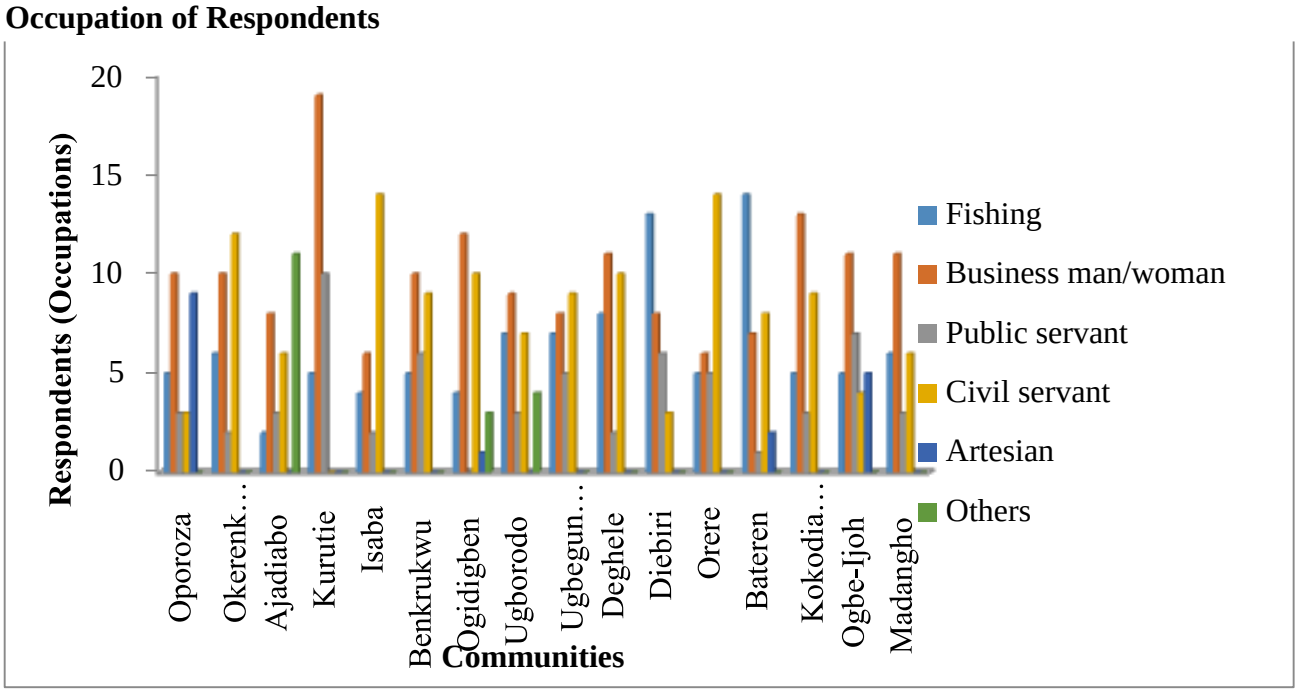

Figure 5: Occupation of Respondents

Figure 5 indicates that the occupation of the respondents in the study. From the figure, 21% of the respondents in all the communities are fishermen. Similarly, 33% of the respondents are businessmen/women, while 12.7% of the respondents are public servants. The number of respondents who are civil servants is 26%, while artisans are 3.5% of the respondents. Those in other occupations, such as students, farmers, etc., account for 3.8% of the entire respondents. From the result, it is evident that the bulk of the respondents are fishermen (21%) and businessmen/women (33%).

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

Income Level of Respondents

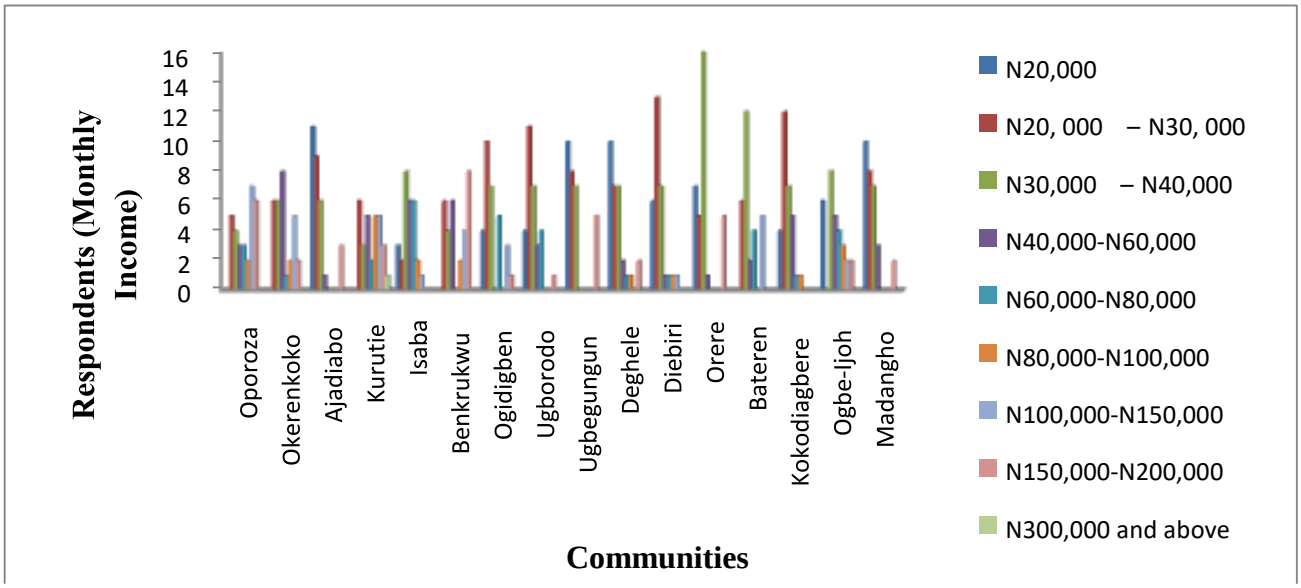

Figure 6: The Income Level of Respondents

Figure 6 reveals that the income level of respondents in the study. From the figure, 15.6% of the entire respondents earn a monthly income of ₦20,000. Within the income level of ₦20,000 to ₦30,000 are 23.7% of the respondents. 24.1% of the respondent are within the income level of ₦30,000 to ₦40,000. In the income level of ₦, 40,000 to ₦60,000 are 10.4% of the respondents. There are 7% of the respondents within the income level of ₦60,000 to ₦80,000 in the entire community. Within the income level of ₦80,000 to ₦100,000, there are 4% of the respondents. While there are 7% of the entire respondents within the income level of ₦100,000 to ₦150,000, there are 8% of the respondents within the income level of ₦150,000 to ₦200,000. The number of respondents in the income level of ₦300,000 and above is low, with one person 0.2% indicating that income level. On a comparative basis, respondents from Oporoza, Benikrukru and Orere communities have the highest income levels.

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

Household Size of Respondents

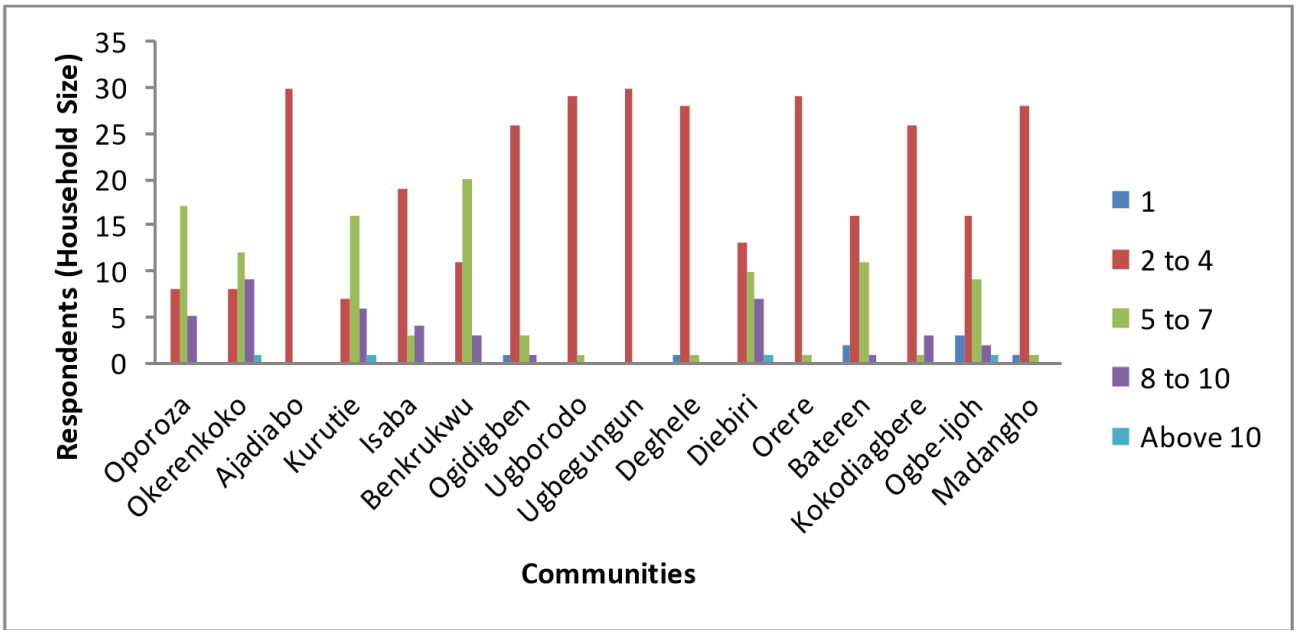

Figure 7: Household Size of Respondents

Figure 7 shows the household size in the different communities studied. From the figure, 1.7% of the respondents are in the category of one (1) person household, while 66.9% are in the category of 2-4 person households. Also, 22% of the respondents are in the category of households of 5-7 persons, while 8.5% of the respondents are in the category of households of 8-10 persons. However, only 0.9% of the respondents were from households of above ten (10) persons. From the result presented, there are more persons in households of 24 persons, which make up about 70% of the entire respondents. The implication of the result is that the study area is comprised of medium size households with the better and more enhanced aesthetic value of their housing and residential environment.

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

Employment Status

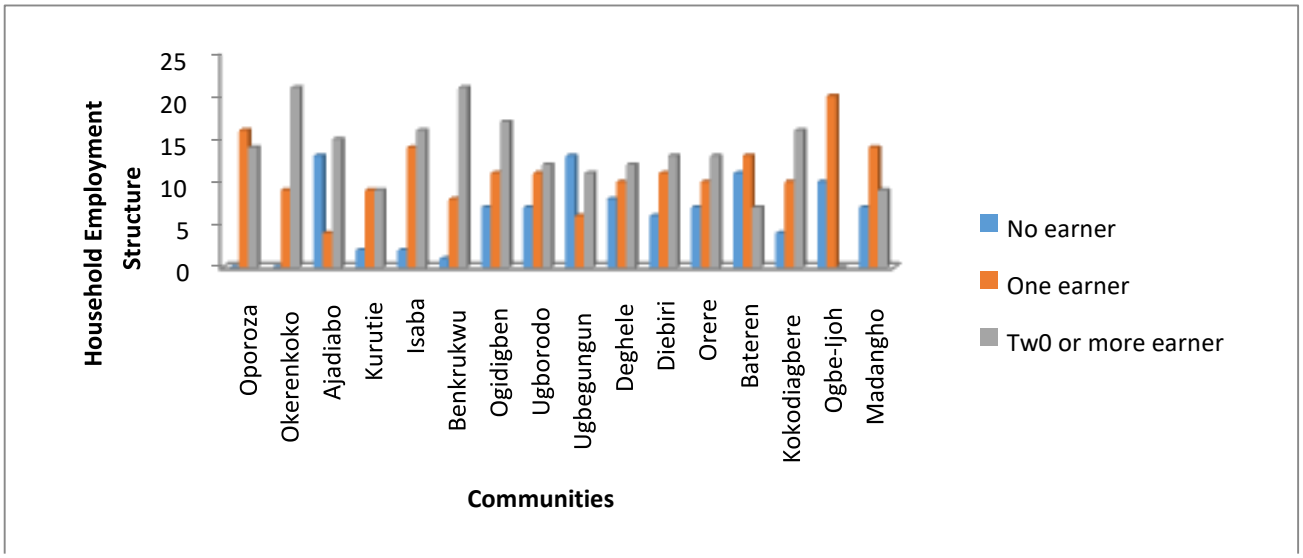

Figure 8: Employment Structure of Respondents Households

Figure 8 shows the employment structure of communities in the study. The figure shows that 20.4% of the respondents are unemployed, while 36.7% of the respondents are earner households (only one person employed/working), and 43% of the respondents are two or more earner (two or more people employed and working). The result indicates that the households with two or more people employed are more, and this is closely followed by households with only one person employed. The number of people employed in a particular household is expected to have a positive effect on the income status, type of housing lived in and "food security", which may impact on household's housing and the environmental quality.

The Residential Environmental Conditions in Warri South –West

This section of the study presents results on the residential environmental quality of the neighbourhood. These consist of the quality of the residential environment, the conditions of the road network, conditions of drainages network, waste disposal and sources of electricity.

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

Qualities of Residential Environment

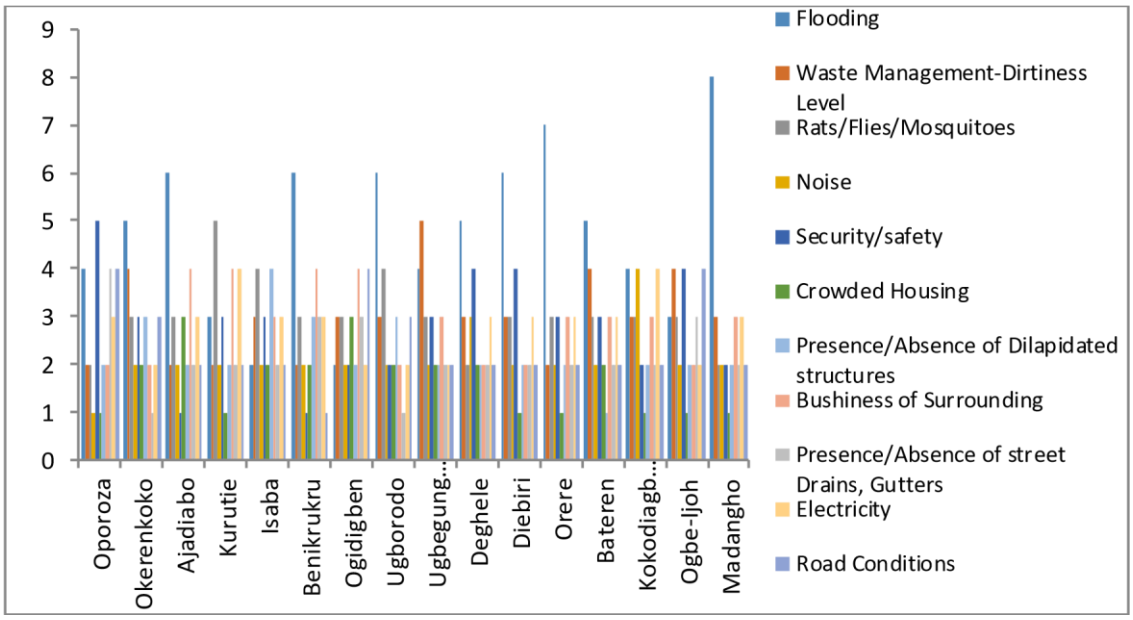

Figure 9: The Quality of Residential Environment in Warri South-West

A good quality environment gives a sense of satisfaction to inhabitants by physical or social characteristics. From the figure, flooding is indicated to be a prominent challenge in Madangho (10.5%), Orere (9.2%) as well as in Ajadiabo, Benikrukru, Ugborodo and Diebiri at 7.9% each. Waste Management-Dirtiness of the environment is indicated to be common in Ugbegungun (10.4%) and in Okerenkoko, Bateren and Ogbe-Ijoh communities at 8.3% each. Rats/Flies/Mosquitoes infestation is indicated to be common in Kurutie, Isaba and Ugborodo at 10.4%, 8.2% and 8.2% levels, respectively. Noise is indicated to be common in Kokodiagbene and Deghele at 11.8% and 8.8%, respectively. Security/safety concerns are indicated to be high in Oporoza at 11.1% and in Deghele, Diebiri and Ogbe-Ijoh at 8.9%, respectively. Crowded housing is indicated to be high in Ajadiabo and Ogidigben at 11.1% each, respectively. The presence of dilapidated structures is indicated to be more in Isaba at 11.1%, while Bushiness of Surrounding is indicated to be common in Ajadiabo, Kurutie, Benikrukru and Ogidigben at 8.7%, respectively. Electricity concern is indicated to be more in Kurutie and Kokodiagbene at 8.9%, respectively. Road Conditions are bad for Oporoza, Ogidigben and Ogbe-Ijoh at 10.3% each and closely followed by Okerenkoko and Ugborodo at 7.7% each, respectively. Since these communities are located in a riverine environment of the Niger Delta, the views of the respondents on flooding correlates with recent events that occurred in this area during the rainy season of each year. Since the year 2012, rainfallinduced inundation of the Niger Delta region of Nigeria has become alarming as people have been ejected from their ancestral homes and made to live in internally displaced persons (IDP) camps, a makeshift arrangement by the government to cushion the effects of flooding disasters on the citizenry. Earlier, Ahianba *et al.* (2005) analyzed the characteristics of environmental degeneration as follows: inadequate basic infrastructural amenities, substandard housing,

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

overcrowding, poor ventilation in homes and workplaces, and noncompliance with building bye-laws and regulations.

Condition of Road Network

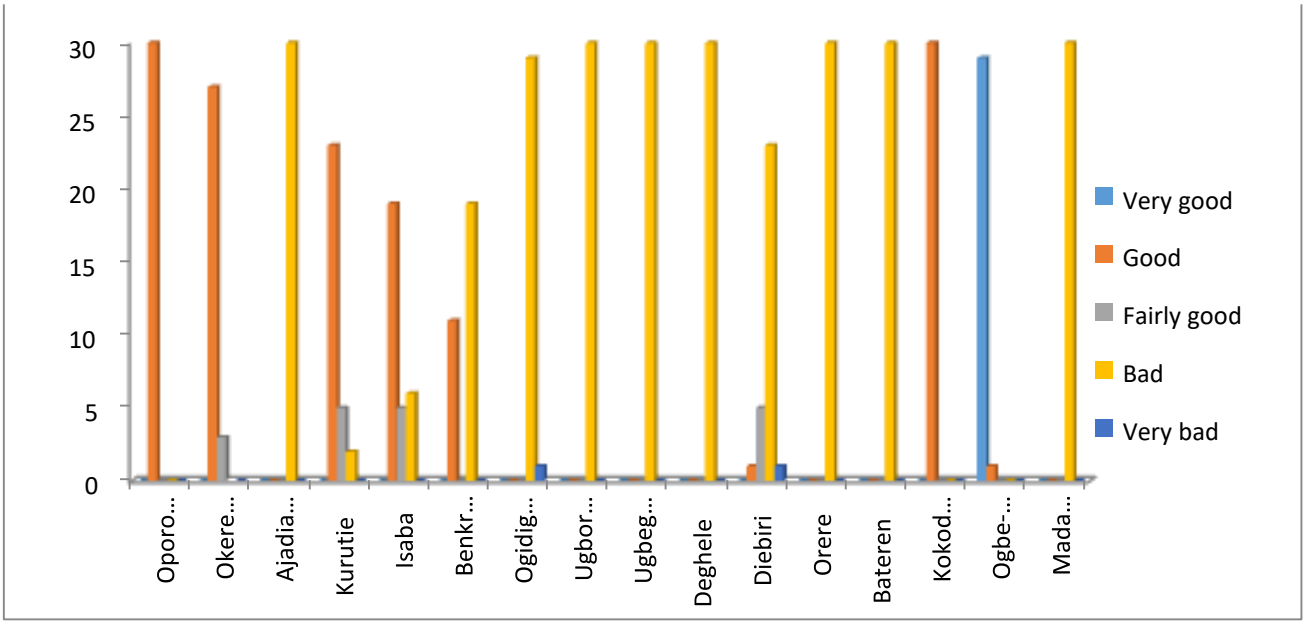

Figure 10: Condition of Road Network

Figure 10 shows the conditions of the road network in the 16 communities under study. The result shows the respondents' rating of the road networks. Six per cent (6%) of respondents indicated that the road network is very good, and this is prominent amongst respondents of the Ogbe-Ijoh community. However, 30% of the respondents, especially in Kokodiagbene, Oporoza, Okerenkoko, Kurutie and Isaba, indicated that their road network is good. However, 3.6%, 60% and 0.4% of the respondents indicated that the road network is fairly good, bad and very bad, respectively. From the result, a greater proportion of the respondents indicated that the road network in the communities is bad.

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

Waste Disposal Methods of Respondents

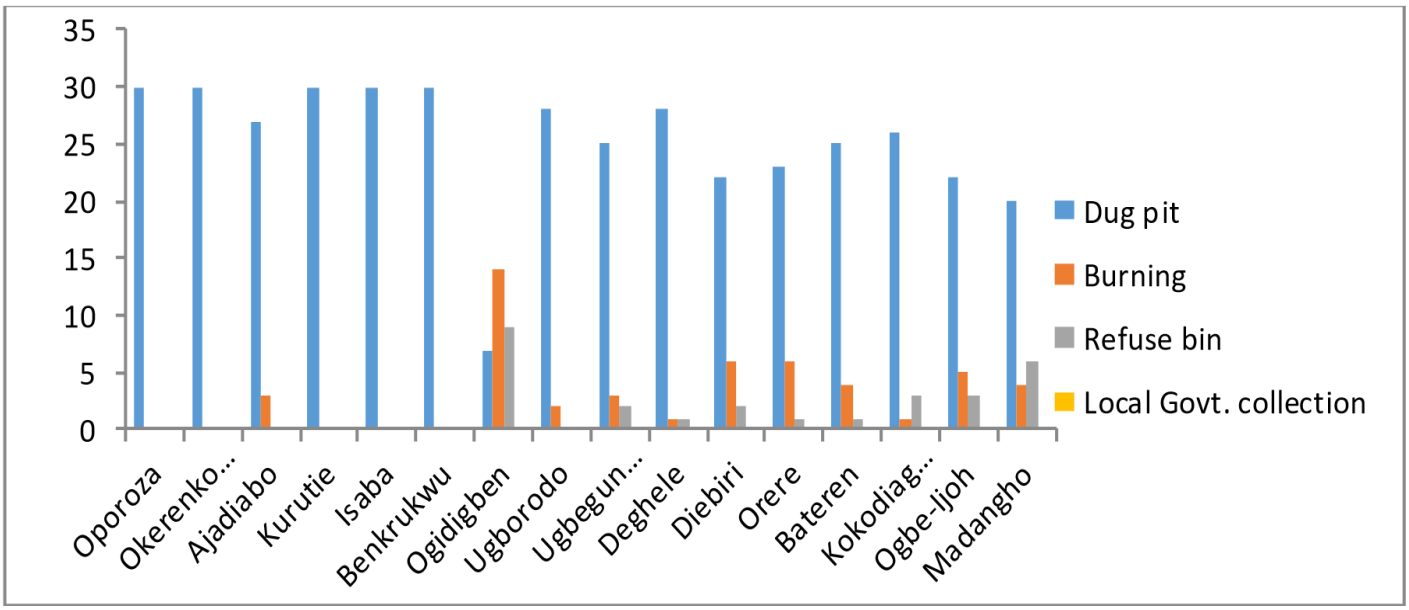

Figure 11: Waste Disposal method employed in Warri South-West

Figure 11 shows the waste disposal practices in the 16 communities. The result shows that 85% of the respondents use dug pits for their waste disposal, while 10.2% dispose of their waste by burning. However, 5.8% of the respondents utilize refuse bins for their waste disposal. The local government, from the respondent's view, does not assist in waste disposal in the communities. From the figure above, the dug pit is the most used method of waste disposal. This has its own implications on the aesthetic value of the environment and neighbourhood as degradable and non-degradable waste are dumped into the pit and later constitutes environmental challenges.3

Moreso, 5.8% of the respondents indicated that they utilize refuse bins for their waste disposal. The local government authorities, from the respondent's view, does not assist in waste disposal in the communities. From the figure above, the dug pit is the most used method of waste disposal. This has its own implications on the aesthetic value of the environment and neighbourhood as degradable and non-degradable waste are dumped into the pit and later constitutes environmental challenges to soil nutrients. This agrees with Owoeye and Omole (2012) which suggested that inappropriate wastes management has made the societal fabric of many rural centres in Nigeria very unsightly.

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

Condition of Drainage

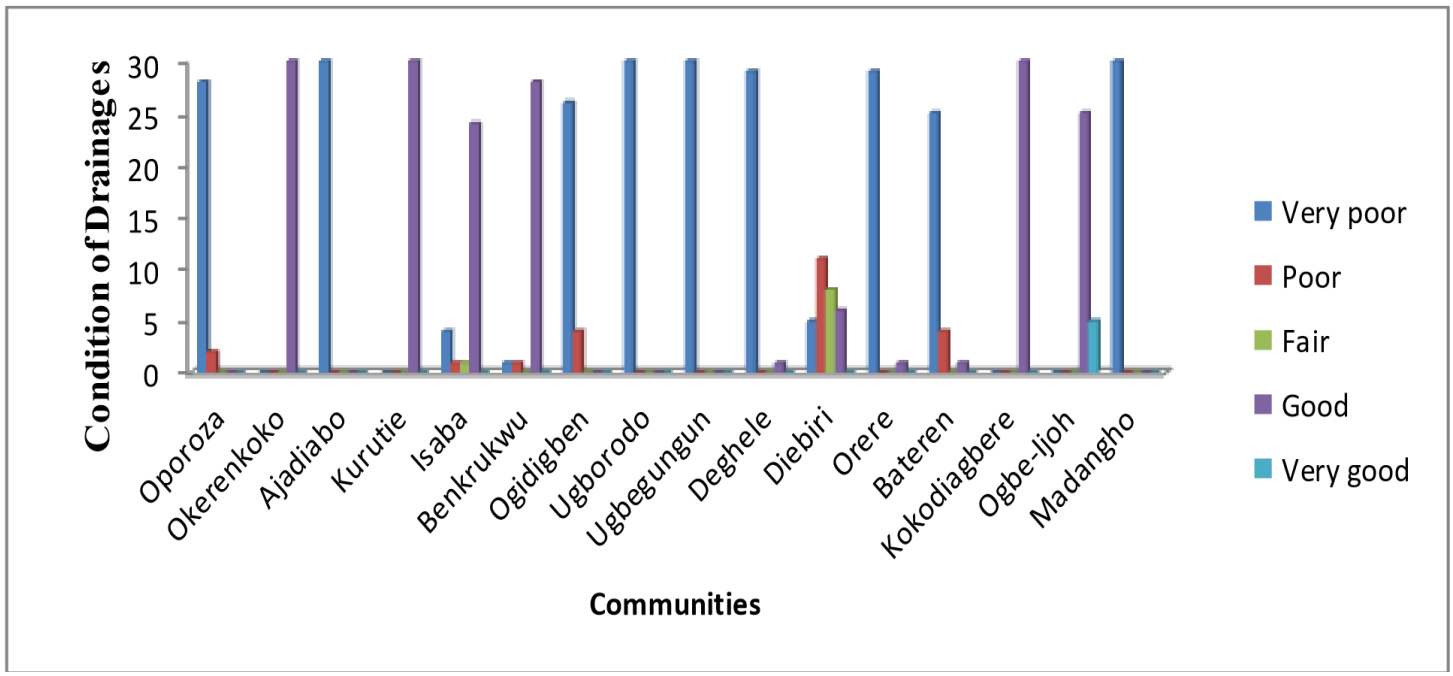

Figure 12: Condition of Drainages in the Area.

Figure 12 shows the condition of drainages in the 16 communities in Warri SouthWest LGA. From the figure, about 55.6% of the respondents are of the view that their drainage is in a very poor condition, while 4.8% of the respondents agree that the drainage is poor. Although 1.8% of the respondents said the drainages are in a fair condition, 36.6% and an additional 1% said the drainages are in good and very good conditions. The implication of the result is that more people agreed that the drainages in Warri South-West are very bad and poor.

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

Sources of Electric Supply of Respondents

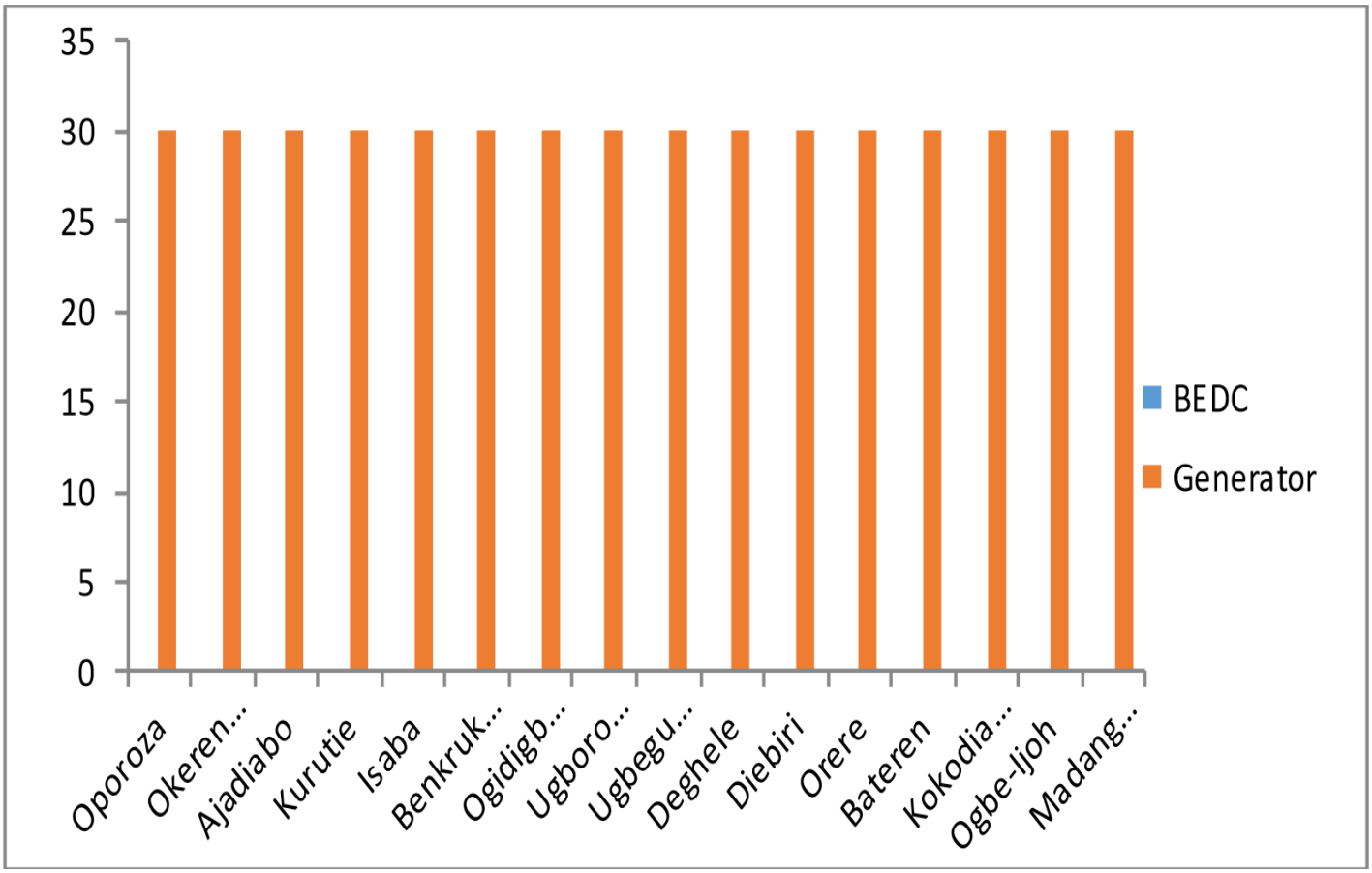

Figure 13: Source of Electricity in Warri South-West

Figure 13 shows the sources of electricity in the 16 communities in Warri SouthWest. The figure shows that the entire respondents (100%) agreed that they all rely on their generators for electricity because of the absence of Benin Electricity Distribution Company (BEDC). This implies public power supply may not have been extended to these 16 communities. This could be due to environmental factors such as lack of road access and the presence of creeks.

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

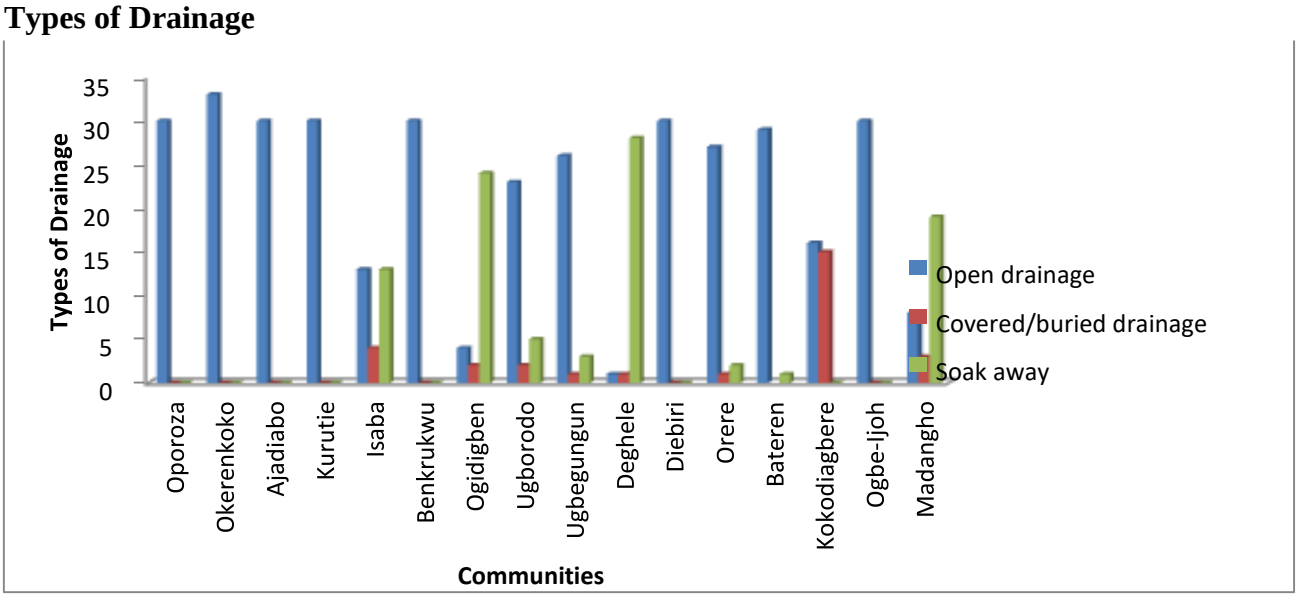

Figure 14: Types of drainage

Figure 14 presents the types of drainage in Warri South-West. The result shows that 74.4% of the respondents agreed that an open drainage system is what is available in the area. However, 5.8% of the respondents said that they have more covered/buried drainage in the area, while 19.8% indicated that there is a soakaway system. From the result, the numbers of communities with open drainages are more and closely followed by soak away pits. The implication of the result is the possibility of the drains being covered with waste from human activities, or people can turn the open drainage into refuse dumpsites. It could also be turned to open defecation for households who lack sanitary facilities in their houses.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Marital status	.769[a]	.591	-.228	5.679	.591	.722	10	5	.692
Education	.696[a]	.484	-.548	4.009	.484	.469	10	5	.856
Age Grade	.527[a]	.277	-1.168	5.292	.277	.192	10	5	.987
Occupation	.713[a]	.509	-.474	3.851	.509	.518	10	5	.824

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

Income	.830[a]	.689	.068	1.963	.689	1.110	10	5	.483

a. Predictors: (Constant), Road Conditions, Crowded Housing, Rats/Flies/Mosquitoes, Waste Management-Dirtiness Level, Presence/Absence of Dilapidated Structures, Noise,
Presence/Absence of street Drains, Gutters, Security/safety, Electricity, Bushiness of Surrounding

The significant difference between the Socio-Economic Characteristics of the Residents and Environmental Quality of the Neighbourhoods

The Model Summary of the multiple regression analysis on the relationship between socioeconomic characteristics of residents and the housing and environmental quality of the study area (Table 1) The R, R^2, adjusted R^2, and standard error of the estimate are all values that can be used to measure how well a regression model fits the data in this table. The value of R, the multiple correlation coefficients, is represented in the "R" column. R can be thought of as one metric for the accuracy of the dependent variable's prediction; in this case, eleven (11) environmental quality indicators. The coefficient of determination (R2) column reflects the proportion of variance in the dependent variable that can be explained by the independent variables (technically, it is the proportion of variation accounted for by the regression model above and beyond the mean model). The R^2values of 0.591 (59%), 0.484 (48%), 0.277 (28%), 0.509 (51%) and 0.689 (69%), as indicated in Table 4.5, shows that the model explained the variability in the residential environmental quality in Warri South-West as indicated by 59% of marital status, 48% on the level of Education, 28% by age grade, 51% by occupation and 69% by income level of the respondents respectively. However, flooding was an excluded variable in the model run, an indication that it is not affected by socio-economic status in the study area.

Table 2: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	232.723	10	23.272	.722	.692[b]
	Residual	161.277	5	32.255		
	Total	394.000	15			
2	Regression	75.387	10	7.539	.469	.856[b]
	Residual	80.363	5	16.073		
	Total	155.750	15			
3	Regression	53.722	10	5.372	.192	.987[b]
	Residual	140.028	5	28.006		
	Total	193.750	15			
4	Regression	76.796	10	7.680	.518	.824[b]

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

	Residual	74.141	5	14.828		
	Total	150.938	15			
5	Regression	42.742	10	4.274	1.110	.483[b]
	Residual	19.258	5	3.852		
	Total	62.000	15			

a. Dependent Variable: Marital Status[1], Education[2], Age Grade[3], Occupation[4], Income[5]

b. Predictors: (Constant), Road Conditions, Crowded Housing, Rats/Flies/Mosquitoes, Waste Management-Dirtiness Level, Presence/Absence of Dilapidated Structures, Noise,
Presence/Absence of street Drains, Gutters, Security/safety, Electricity, Bushiness of Surrounding

The F-ratio in the ANOVA table (Table 2) tests whether the overall regression model is a good fit for the data. The table shows that the dependent variables did not statistically predict the independent variables.

Table 3: Summary of Coefficients indicating the Unstandardized Coefficients

Coefficients of Description	**Unstandardized Coefficients (Constant)**
Environmental Quality and Marital Status	41.463
Environmental Quality and Education	-11.887
Environmental Quality and Age Grade	11.636
Environmental Quality and Occupation	-6.288
Environmental Quality and Income	-15.494

Table 3presents the coefficients for marital status and residential environmental quality. Unstandardized coefficients indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant. The unstandardized coefficient, B1, is equal to 41.463. This means that for each change in marital status, there is an increase in respondent's view of residential environmental quality
indicators

The unstandardized coefficient describing the level of Education and residential environmental quality B1 is equal to -11.887. This means that each change in the level of Education does not cause an increase in

respondents' views of residential environmental quality indicators. Other factors unexplained are also considered.

Table 3 also presents the coefficient for age-grade and residential environmental quality. Unstandardized coefficients indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant. The unstandardized coefficient, B1, is equal to 11.636. This means that for each change in agegrade, there is an increase in respondents' views of residential environmental quality indicators.

Table 3 also shows the coefficients for occupation and residential environmental quality. Unstandardized coefficients indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant. The unstandardized coefficient, B1, is equal to -6.288. This means that each change in occupation does not necessarily increase respondents' view of residential environmental quality indicators.

In Table 3, the coefficients for income and residential environmental quality are shown, indicating how much the dependent variable varies with an independent variable when all other independent variables are held constant. The unstandardized coefficient, B1, is equal to -15.494. This means that each change in income does not increase residents' view of residential environmental quality indicators.

From Table 3, since the socio-economic status did not significantly impact the residential environmental quality, the stated hypothesis is rejected (not significant), meaning that there is a significant relationship between social-economic characteristics and environmental quality in the 16 communities of Warri South-West LGA.

Statistical test of hypothesis which states that there is no significant relationship between socio-economic characteristics of residents and the housing and environmental quality of the study area showed that marital status, Education, age grade, occupation and income does not have a statistically significant relationship with the indicators of residential environmental quality. These indicators include flooding, waste management-dirtiness level of the environment, rats/flies/mosquitoes infestation, Noise, Security/safety, crowded housing, presence/absence of dilapidated structures, bushiness of the surrounding, presence/absence of street drains, gutters, electricity presence and road conditions. These indicators, to a large extent, are external to the residents of a particular environment and, in most cases, provided for by the organs of government.

4. Conclusion and Recommendations

This study examined the environmental conditions and quality of life of the people in Warri South-West LGA of Delta State. The findings of the study revealed that a relationship exists between residents' environmental conditions and their quality of life. Also, the environmental conditions reflections of their socio-economic

characteristics, such as educational attainment, household size, and income but not with age and marital status in the study area.

The environmental setting has been shown through this study to be a limiting factor to sustainable housing, especially in the face of regular environmental flood disasters. It has been shown that speed boats are the most preferred as a result of environmental determinism and the negligence of the government and its agencies to develop other means of transportation.

Asphalted roads with drainages to channel floodwater away in the environment should be constructed to provide express linkage in the area for easy flow of materials and resources and for effective spatial interaction between residents and their workplace.

Routine and continuous bush clearing, fumigation of the environment to stride off mosquitoes, rodents and flies should be carried out to improve the quality and aesthetic value of the Warri South-West environment as more development takes place.

Regular power supply could be achieved through Public/Private partnership and the current privatization of the electricity process embarked upon by the Federal Government. The provision of water supply by the government was fundamentally nonexistent. Government should partner with the private sector for the provision of this essential service to the residents. Other forms of electricity generation such as solar power, biomass, wind, tidal energy, which are in abundant supply in the country, can be looked into by the government.

Regular collection and disposal of waste should be done. However, Public/Private partnerships should also be embraced. The prevailing practice of disposal of waste into drains by the residents should be discouraged, and suitable procedures should be put in place to discipline offenders. Public enlightenment should be given to the residents using the scheduled environmental sanitation exercise of the state as a medium; during the exercise, the practice of removing waste from drains and roadsides disposal of waste should be discouraged.

References

Acheampong, P. T. (2010). *Environmental Sanitation in the Kumasi Metropolitan Area*. A Master of Science Thesis Submitted to the Department of Planning. Kumasi: Kwame Nkrumah University of Science and Technology.

Ademiluyi, I. A., & Odugbesan, J. A. (2010). Sustainability and impact of community water supply and sanitation programmes in Nigeria: An overview. *African Journal of Agriculture Research,* 3(12), 811–817

ISSN: 3065-047X

Journal of Climate Science and Meteorology

Research Article

Ahianba, J. E., Dimuna, K. O., & Okogun, G. R. A. (2008). Built environment decay and urban health in Nigeria. *J. Hum. Ecol.*, 23(3), 259-265

Akpabio, E. M. (2012). Water Supply and Sanitation Services Sector in Nigeria: The Policy Trend and Practice Constraints.

Berman, Y., & Phillips, D. (2000). Indicators of social quality and social exclusion at national and community level. *Social Indicators Research*, 50, 329 – 50

Daramola, O. P., & Olowoporoku, O.A. (2016). Environmental sanitation practices in Osogbo, Nigeria: an assessment of residents' sprucing-up of their living environment. *Journal of Economic and Environmental Studies*, 6(4), 699 – 716 Iloeje, N-P (1981), *A New Geography of Nigeria*, (New revised edition). Longman.

Luthi, Ch. (2012). *Community-based environmental sanitation planning approaches for the South: the household centred approach*. Berlin.

Mmom, P. C., & Mmom, C. F. (2011). Environmental sanitation and public health challenges in a rapidly growing city of the Third World: The case of domestic waste and diarrhoea incidence in Greater Port Harcourt Metropolis, Nigeria. *Asian Journal of Medical Sciences*, 3(3),115-120.

Mmom, P.C. (2003). The willingness of Port Harcourt City residents to relocate their residence; implication for urban decongestion. *J. Pedagogy Dev., Special Edn.* 7889.

Nwankwo, B. (2011). Evaluation of environmental sanitation in Owerri Municipal Council of Imo State. *Research Journal of Medical Science*, 3(4), 137- 140.

Olowoporoku, O. A. (2014). *Assessment of Environmental Sanitation Practices in Osogbo.* A Thesis Submitted in Partial Fulfillment of the Requirement for the Award of Bachelor of Science in the Department of Urban and Regional Planning, Faculty of Environmental Design and Management, Obafemi Awolowo University, Ile-Ife

Owoeye, J. O. & Omole, F. K. (2012). Built Environment Decay and HealthSituation of Slum Dwellers in Residential Cores of Akure, Nigeria. *American Journal of Human Ecology*, 1(2), 33-39.

Phillips, D. (2006). Quality of life: concept, policy and practice. Oxon: Routledge WHO (2006). *Guidelines for the Safe Use of Wastewater, Excreta and Grey Water*. France.

Zaid, Y.A., & Popoola, S.O. (2010). Information accessibility and utilization as a correlate of quality of life of rural women in Nigeria. *Samaru Journal of Information Studies*, 10(1), 31-40.