

Social and Environmental Determinants of Neighbourhood Quality in Port Hart Court

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Abstract

This study examined social and environmental determinant of neighbourhood quality by residents in Abuloma and Orije Old GRA in Port Harcourt municipality, Nigeria. The study utilized both secondary and primary data sources. Data from primary sources was gathered using face-to-face administration of a largely pre-coded household questionnaire, to a probability sample of 358 respondents, drawn from the two neighbourhoods. Data analysis was based on responses from 191 copies of questionnaire retrieved and the Spearman Rank-Order Correlation and T-test method was adopted to test for relationship and significant difference between social and environmental indicators of neighbourhood quality. The study showed that large percentage of residents reported an inadequacy of environmental indicator of neighbourhood quality such as waste collection and disposal in Abuloma when compared to Orije Old GRA which was adequate. Safety of lives and property in Abuloma was low and high in Orije Old GRA. Residents in the two neighbourhoods were satisfied with their social indicators such as household monthly income, level of education, ethnicity, type of housing, use of whatsapp and facebook as a means of interaction. Residents in the two neighbourhoods rated infrastructure endowment such as fire stations, public schools, recreational areas as inadequate while on maintenance of roads it was only inadequate in Abuloma. The study concluded that majority of the residents' rated mostly environmental indicators and infrastructure endowment of neighbourhood quality inadequate. The study concluded that government intervention in terms of infrastructure is absent. The study recommended that government should intervene in these areas to improve the neighbourhood quality to achieve sustainability.

Keywords: Social determinant, Environmental determinant, Neighbourhood quality

Introduction

The basic concept of neighbourhood is known as a delineated area within physical boundaries where people identify their home and where they live out and organize their private lives. There are physical and physiological barriers between communities, such as highways, housing tenure, or resident social composition (Power, 2004). A significant event in our lives is the process of moving to a new residential area in a town. It is about where you are going to live, which also includes thinking about the cost, how the location would impact your life, your access to public services and facilities, shops and schools. In essence, the protection of your family and well-being is also a consideration and it also includes other environmental and social determinants that are also considered to assess a good community and other quality (Thomas & Cousins, 1996).

Social and environmental features of neighbourhoods may affect the health of residents beyond the contributions of individual level risk factors (Macintyre & Ellaway, 2003). Older persons are often more vulnerable to the ill effects of their neighbourhoods due to their longer durations of exposure to potential environmental hazards, as well as age-related limitations in life space (Simon *et al.*, 1992). In younger age groups, individuals are typically exposed to a diversity of contexts such as school, work, recreation/entertainment venues, and community. In contrast, older adults often experience the vast majority of environmental exposures from their residential neighbourhoods (Satariano, 2006; Scheidt & Windley, 2003).

Selection of a good neighbourhood can also depend on the prevailing urban policies and institutional environment within which the decisions of moving is been made. As such, each individual family or household's reasons for their location decision can conceivably differ based on their priorities, values preferences and money. Since man has gone through a transition from primitivism to modernity, the problem of providing a suitable shelter for him has been of importance. It is imperative that traditional economic growth assumptions as a tool to measure quality of life is being faced with neighbourhood that had tried to make communities more liveable (VanZerr & Seskin, 2011).

The importance of the urban residential environments as the main habitat of man cannot be over emphasized because a liveable city is considered to be network of liveable neighbourhood. These neighbourhoods are characterized with distinct features and attributes which completely support living, leisure, health, working and cultural heritage of the habitants. According to Arthurson (2014), neighbourhood liveability is used to ascertain the extent to which neighbourhood succeeds in attracting and retaining residents, giving the residents environment that is likely to live in.

Urban environment provide areas in which people are confronted with various adverse social and environmental conditions such as noise, malodours, air pollution, safety risks, crowding, litter, flooding and lack of facilities. In essence the focus on liveability of a neighbourhood becomes obvious, because cities have to cope with issues like degradation and inequalities in well-being. The speed and size of urbanisation which is getting bigger have created severe problems in most cities like shortage of clean drinking water, insufficient infrastructure, poverty and substandard housing (Angotti, 2013). The quality of neighbourhood, along with the quality of the home and family life has been shown to be major determinants of perceived life quality. The residential neighbourhood quality and satisfaction is among the basic conditions for quality of life, as well as the support for the economic activities, culture and society.

Port Harcourt and its environment like many city centre in Nigeria is faced with acute housing problems which lead to poor neighbourhood quality. This is as a result of the marked imbalance between the few developing areas and the vast underdeveloped regions of the state. One of the best way of measuring Neighbourhood quality or standard of living globally is liveability assessment of the place.

These consequences are that these cities which includes Port Harcourt city lack urban infrastructures/ facilities and services which has failed to keep paced with the population growth in addition to worsening of the urban environmental problems such as; poor waste management, flooding, poverty, increase of crime and poor safety, slum development is of the increase and also the open space which supports ambience in the city neighbourhood are now taking over by other incompatible urban land use due to misconceived urban use policy. The study was thus undertaken to evaluate the social and environmental determinants of selected neighbourhood quality in Port Harcourt.

Specific objectives of this research are:

1. To identify the relevant indicators of neighbourhood quality in the study area.
2. To assess the relationship between the relevant indicators on the quality of selected neighbourhood.

The research questions are as follows:

1. What are the relevant indicators of neighbourhood quality in the selected neighbourhoods in Port Harcourt?
2. Is there any relationship between the relevant indicators and the quality of neighbourhood in the study areas?

In view of the review of literature and theoretical postulations, the following hypotheses were put forward:

H₀₁: There is no significant relationship between the relevant indicators on the quality of selected neighbourhoods in Port Harcourt.

H₀₂: There is no significant difference in the environmental quality between Abuloma and Orije Old GRA.

H₀₃: There is no significant difference in the social media interactions between Abuloma and Orije Old GRA.

2. Literature Review

2.1 Theoretical Foundation

The baseline theory for this study is the Neighbourhood theory. Perry (1929), developed the concept of neighbourhood which was based on the physical form to describe a populated area that supports a primary school with pupils' enrolment of between 1000 and 1200. This implies that the entire population of the neighbourhood is between 5,000 and 6,000 persons. The concept was bounded by arterial road and other boundaries with an open space, school, community centre and local shops. In addition, there should be no thorough traffic within the neighbourhood centre.

This concept dominated scholar discourse during the industrial revolution, the concept as developed as response to degradation of the city surrounding because of the excessive and heavy traffic movement through the city, insecurity to school, and distance of shopping and recreational facilities among others (Shambharkar, 2008).

2.2 Concept of Neighbourhood

The basic concept of neighbourhood refers to a physical boundary where people live their private lives which have the physical environment, social and economy which constitute the sense of community and place of attachment Rahman *et al.* (2012). The development and changes of a neighbourhood can be met to fulfil the uttermost needs, sustainability and requirements of the people. The neighbourhood changes are required to improve the neighbourhood conditions such as neighbourhood quality, liveability, health and sustainability, dynamic and self-stabilising neighbourhood; all these are shared towards the people's well-being, health, safety and sustainable communities Rahman *et al.* (2012). The difficulty in measuring the social and environmental quality of residential units (neighbourhood) and surrounding environment conditions appear to be one of the most problematic aspects of housing research (Quin, 1975; cited by Emenike, 1999). The quality of neighbourhood can be measured not only by physical conditions of building but also by the

internal facilities that are present in them in evaluating the several determinants and attributes of residential services. In Nigeria, there are two sets of acceptable law of minimum housing standards which was used to measure housing quality in a neighbourhood. This includes: The Nigeria town planning act of 1959 and that provided by national council of housing. The Nigeria town planning Act of 1959 states that a house must have a minimum of shower bath, flush toilet, electric light, watersupply, adequate ventilation and good building materials. The national Council on housing states that a house should have; one to three-bedroom seating room, a flush toilet, a shower and kitchen. The determinants of environmental conditions such as regular refuse disposal system, good drainage system and freedom from nuisance are used to measure environmental quality.

2.3 Environmental Quality of a Neighbourhood

The environment can be defined as circumstance that affect an individual's life e.g. natural conditions like air, water, etc. (Oxford Advanced Learners Dictionary). Rapport (1990), stated that environmental quality is an indicator used to measure the degree to which the environment is suitable for a human being subsist, it also has a multi-dimensional characteristic. According to Rapport (1990), the environmental quality by definition has two major meaning, the first, deals with the physical environment like the air, water, pollution, consequences of over population and noise which have certain effects on people (Rapport, 1990). While the second, deals with more sophisticated meaning of the qualities, materials and immaterial of natural and manmade built up environment which supports the social and cultural structures and institutions of a specific group of people and hence give them satisfaction or dissatisfaction, with the settings provided (Rapport et al., 1991)

It is imperative to understand environmental quality for urban living from the perspective of residents in terms of which will provide suggestions for its improvement. In essence a more realistic approach to environmental quality management would be one of which is based upon an understanding of what the public seeks in the environment, how it trades one set of values with another, and how it can be motivated to make choices about environmental changes. Specific aspects of the environment have emerged as the key elements related to individual's quality of life; this encompasses many factors including social relationship, education, financial security, health, and environmental quality (Keller-olamanet *al.*, 2005)

A basic distinction is made between environmental conditions which can be measured objectively and environmental quality which can be measured subjectively. According to Milbrath (1978), the objectives approach focuses more on the objective standard and scientific criteria for the measurements of environmental quality, which relies more on the professional of environment associated field who can understand and hold the environmental quality evaluation. Most of these professional are in control of the information of urban environment and are the experts in these domain, it also comprises of the visible part of urban life which are defined by different elements. Some examples of measures of environmental conditions are levels of cleanliness of air and water, number of hospital beds per 100000 residents in a city, unemployment rate, the volume of crime, and the area of urban green spaces. The second set comprises subjective indicators which try to measure and qualify the citizen's satisfaction with those objective attributes or determinants (Lotfiet *al.*, 2009). Therefore, the environmental quality of residential neighbourhood is the positioning or ranking of the area in which a person lives taking into considerations all the conditions that surround him or her.

2.4 Environmental Problems of a Neighbourhood

The development processes in the cities have imposed on the urban environment many varied problems. These have created a lot of problems in different neighbourhoods. Marans & Rodgers (1975), suggested that individual qualities, for example, age, race, and income are instrumental in deciding how objective environmental characteristics and determinants are converted into subjective fulfilment with one group. This has been developing public enthusiasm for understanding the connections between the economic, environmental and social part of life. In such manner, Government have reacted by attempting to quantify whether there are indications of advance or relapse between these elements.

Over the years there are diverse dimensions on how to determine the quality of a good neighbourhood, Yang (2011), comprehensively ordered it into subjective and objective assessment methods. He opines that subjective assessment develop the assessment model and the index system through questionnaire survey to residents, while objective assessment utilises the macroeconomic or the spatial information to develop and examine the model. The economist's intelligence unit 2012 evaluated the liveability level of urban areas (neighbourhood) in various part of the world and highlighted that it depended on more than 30 subjective and quantitative components crosswise over five general classifications of steadiness, social insurance, culture and conditions, instructions, and foundations. Every factor in the city is assessed as satisfactory, average, uncomfortable, undesirable or horrifying.

According to Pandey *et al.* (2014), in determining the environmental and social attributes of a neighbourhood, liveability is prerequisite for healthy living combined with economic and social, environmental survival and subsequently, imperative for enhancing the nature of human life. A good and liveable neighbourhood provides the platform to assess the level of comfort in urban and rural space. Thus liveability index provides the framework to evaluate built environment conditions. Also, its rating evaluates the difficulties that may be displayed to an individual way of life in any given neighbourhood, and take into consideration coordinate examination between areas (Economist intelligence unit, 2012).

3. Methodology

The Ex-post facto research design was used in this study since the study showed the relationship between the environmental (infrastructure, solid waste collection, safety and crime, access to destinations) and social determinants (type of house, residential status, monthly household income, level of education, length of residence, employment status and household size) of neighbourhood quality. The ex-post facto research design was useful during investigation of the relationship between the determinants of neighbourhood quality as in this study and gives no space for manipulation of any variable. The study population includes the entire inhabitant of the selected neighbourhoods of Port Harcourt which include Abuloma and Orije Old GRA. The selected neighbourhoods population was projected from 1991 population to 2019. The sample size for this study was determined using Taro Yamane Formula. Using the formula, a sample size of 396 was obtained. A systematic sampling procedure was used in selecting streets in the selected neighbourhoods in Port Harcourt, selecting buildings in the selected street to be sampled and selecting individuals as respondents from each sampled building. This study utilized a validated semi-structured questionnaire which was employed for data collection from the sample of the study. A total of 396 copies of questionnaire were distributed and 358 copies were correctly filled by households in Abuloma and Orije Old GRA and retrieved. The data generated were categorized and analysed with descriptive and inferential statistics.

Table 1: Study population of the selected neighbourhoods of Port Harcourt

S / N	Neighbourhoods	Population Census (1991)	Projected Population (2019)
1	A b u l o m a	1 0 4 5	4 2 2 7 7 4
2	O r i j e O l d G R A	6 4 8	2 1 4 1 2 1
	T o t a l	1 1 6 9 3	6 3 6 8 9 5

Sources: Rivers State Ministry of Budget, 2013 and projected calculations done by the researchers, 2019.

Table 2: Selected Neighbourhoods, the Projected Population, Sample Size and Percentage

S/N	Neighbourhood	Projected Population	Sample Size	Percentage (%)
1	A b u l o m a	2 2 7 7 4 2	4 4 6	2
2	O r i j e O l d G R A	1 4 1 2 1 1	5 2 3	8
	T o t a l	1 3 6 8 9 5 3	9 6 1 0 0	

Source: Survey Data, (2019)

4. Resultsof the Study

Research Question 1: What are the relevant indicators of neighbourhood quality in the selected neighbourhoods in Port Harcourt?

Table 3: Computation of Responses on Relevant Indicators of Neighbourhood Quality

S/N	Relevant Indicators of Neighbourhood Quality	A b u l o m a	O r i j e	O l d	G R A
	S o c i a l I n d i c a t o r s	f (%)	f	(%)	
	The level of Household monthly income determines the level of social quality of your neighbourhood quality				
	M e a n	4 . 6 0	S A	4 . 8 1	S A
	S t a n d a r d D e v i a t i o n	0 . 4 8	0	. 3	2
	The level of education determines the level of social quality of your neighbourhood quality				
	M e a n	4 . 8 4	S A	4 . 9 4	S A
	S t a n d a r d D e v i a t i o n	0 . 3 8	0	. 3	8
	The type of house determines the level of social quality of your neighbourhood quality				
	M e a n	4 . 8 6	S A	5 . 0 0	S A
	S t a n d a r d D e v i a t i o n	0 . 3 3	0	. 0	0
	Ethnicity determines the level of social quality of your neighbourhood quality				

M e a n	4 . 8 1	S A	4 . 9 1	S A
S t a n d a r d D e v i a t i o n	0 . 4 4	0	. 2	8
Household size determines the level of social quality of your neighbourhood quality				
M e a n	4 . 8 1	S A	5 . 0 0	S A
S t a n d a r d D e v i a t i o n	0 . 4 8	0	. 0	0
The use of WhatsApp and Facebook determines the level of social quality of your neighbourhood quality				
M e a n	4 . 8 3	S A	4 . 8 2	S A
S t a n d a r d D e v i a t i o n	0 . 4 9	0	. 7	0
Grand Mean	4.79		4.91	

Source: Survey Data, (2020)

Analysis in Table 3, revealed the relevant social and environmental indicators that determines neighbourhood quality. Findings show that respondents in Abuloma and Orije Old GRA strongly agreed that social indicators such as monthly household income, level of education, type of house, ethnicity, household size, the use of WhatsApp and Facebook are relevant indicators of neighbourhood quality. The weighted mean indicated 4.79 and 4.91 for Abuloma and Orije Old GRA. With the grand mean of 4.85, all the respondents strongly agreed that social indicators such as monthly household income, level of education, type of house, ethnicity, household size, the use of WhatsApp and Facebook are relevant indicators of neighbourhood quality.

Research Question 2: Is there any relationship between the relevant indicators and the quality of neighbourhood in Abuloma?

Table 4: Spearman Correlation Coefficients for Social Indicators and Environmental Indicators in Abuloma

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centers, water amenities)												
2	Type of House of Respondents	.413**											
3	Residential Status of Respondents	.548**	.548**										
4	Monthly Household Income	.252**	0.084	-0.008									
5	Level of Education	-0.008	-0.067	-0.027	0.129								
6	Employment Status	.341**	.293**	.267**	.145*	-.186**							
7	Household Size	0.025	-0.052	-0.003	0.084	.854**	-.137*	.287**					
8	Length of Residence	-0.037	-.189**	-.157*	-0.033	.376**	-.215**	0.036	.379**				
9	Use of WhatsApp and Facebook	0.089	-.182**	-0.095	0.032	.239**	0.021	-.142*	.224**	.207**			
10	Solid Waste Collection	0.110	0.040	0.074	.261**	-0.008	-0.020	-0.002	-0.020	0.030	-.151*		
11	Safety and Crime	-.176**	-.250**	-.251**	-0.049	0.086	-.166*	-0.093	0.039	.145*	0.091	0	
12	Access to Destinations	-.152*	-0.024	-.146*	0.029	0.044	-.138*	0.013	0.007	0.132	.152*	-0.013	

Note: N= 221, *p<.05, **p<.01

Analysis in Table 4 using Spearman Rank-Order Correlation Coefficient (r_s), revealed that quite a number of relationship exists between the relevant social such as monthly household income, type of house, level of education, residential status, employment status, household size, length of residence, and use of WhatsApp and Facebook as a means of social interaction and environmental indicators such as level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, water amenities), solid waste collection, accessibility and safety and crime that determines neighbourhood quality.

Findings show that in Abuloma, the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) has r_s of 0.413 and 0.341 with type of house and employment status, indicating a significant moderate positive relationship between the ranked variables. That is, as the level of infrastructural facilities increases, the type of housing, monthly household income, employment status also increases. The level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) has r_s of 0.548 with residential status indicating a significant strong positive relationship between these variables. That is, as the level of infrastructural facilities increases, the residential status and also increases.

The residential status has r_s of -1.46 and -2.51 with access to destinations and safety and crime, indicating a significant weak negative relationship between the two ranked variables.

Findings show that monthly household income in Abuloma has r_s of 0.252, 0.261 with infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) and solid waste collection indicating a significant weak relationship. That is as the monthly household income increases, the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) and solid waste collection also increases at a weak rate.

Employment status has r_s of -2.15 with safety and crime indicating a significant weak negative relationship between the ranked variables. That is, as the employment status increases, safety and crime decreases but at a weak rate.

Findings show that solid waste collection in Abuloma has r_s of 0.261 with household monthly income indicating a significant weak relationship. That is as the solid waste collection increases, the household monthly income increases.

Research Question 2: Is there any relationship between the relevant indicators and the quality of neighbourhood in Orije Old GRA?

Table 5: Spearman Correlation Coefficients for Social Indicators and Environmental Indicators in Orije Old GRA

	1	2	3	4	5	6	7	8	9	1	0	1	1
1 Residential Status of Respondents													
2 Type of House of Respondents	-0.067												
3 Monthly Household Income	0.069	.447**											
4 Level of Education	-0.008	.290**	.582**										
5 Length of Residence	-0.086	-.337**	-.450**	-.406**									
6 Use of WhatsApp and Facebook	0.024	0.157	.213*	.170*	-0.054								
7 Waste Collection and Disposal	0.055	-.209*	-0.107	-0.069	-0.165	-0.077							
8 Safety and Crime	0.069	-.550**	-.530**	-.440**	.562**	-0.083	0.011						
9 Average Household Size of Respondents	0.028	-.481**	-.259**	-0.157	0.09	-0.134	.568**	.211*					
0 Access to Destinations	0.017	-.199*	-0.155	-0.128	0.136	-0.054	0.168	0.147	.177*				
1 Level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centers, water amenities)	0.063	.190*	.614**	.281**	-.277**	.237**	0.094	-.345**	-0.044	-0.141			

Note: N= 137, *p<.05, **p<.01

Analysis in Table 5 using Spearman Rank-Order Correlation Coefficient (r_s), revealed the relationship between the relevant social such as monthly household income, type of house, level of education, ethnicity, residential status, employment status, ethnicity, household size, length of residence, and use of WhatsApp and Facebook as a means of social interaction and environmental indicators such as level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, water amenities), solid waste collection, accessibility and safety and crime that determines neighbourhood quality.

Findings show that in Orije Old GRA, the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) has r_s of 0.281 with level of education indicating a significant weak positive relationship between the ranked variables. That is, as the level of infrastructural facilities increases, the level of education increases at a lower rate. The level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) has r_s of 0.614 with monthly household income indicating a significant strong positive relationship between these variables. That is, as the level of infrastructural facilities increases, the monthly household income also increases at a higher rate. The level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) has r_s of -3.45 with safety and crime, indicating a significant moderate negative relationship between the two ranked variables. That is, as the level of infrastructural facilities increases, the safety and crime also decreases.

Findings show that in Orije Old GRA, average household size has r_s of 0.211 with level of safety and crime indicating a significant weak positive relationship between the two ranked variables. That is, as the level of average household size increases, safety and crime also increases at a lower rate. Average household size has r_s of 0.568 with solid waste collection indicating a significant strong positive relationship between the ranked variables. That is, as the average household size increases, the level of solid waste collection also increases.

Safety and crime has r_s of 0.562 with length of residence indicating a significant strong positive relationship between the two ranked variables. That is, as safety and crime increases, the length of residence also increases. Safety and crime has r_s of -5.50, -5.30 with type of house and monthly household income indicating a significant strong negative relationship between these ranked variables. That is, as safety and crime increases, type of house and monthly household income also decreases. Safety and crime has r_s of -4.40 with level of education indicating a significant moderate negative relationship between these ranked variables. That is, as safety and crime increases, level of education also decreases.

Test of Hypothesis

H₀₁:There is no relationship between social and environmental indicators of neighbourhood quality in Abuloma and Orije Old GRA.

Table 2: Spearman Correlation Coefficients for Social Indicators and Environmental Indicators in Abuloma and Orije Old GRA

	1	2	3	4	5	6	7	8	9	1	0	1	1
1 Monthly Household Income													
2 Level of Education	.172**												
3 Employment Status	.172**	-.106*											
4 Type of Housing	0.077	.326**	.178**										
5 Household Size	.117*	.797**	-0.045	.344**									
6 Length of Residence	-0.025	.185**	-.226**	-0.033	.164**								
7 Use of WhatsApp and Facebook	0.077	.260**	0.044	-0.101	.214**	.109*							
8 Access to Destinations	.133*	0.088	.111*	0.069	.142**	-.105*	.371**						
9 Safety and Crime	-.195**	-.125*	-.311**	-.291**	-.195**	.316**	-0.077	-.322**					
1 0 Solid waste collection and disposal	0.078	.275**	-0.072	.164**	.255**	-0.034	.379**	.336**	-.255**				
1 1 Infrastructural Facilities	.107*	.155**	0.063	.320**	.154**	-.149**	-0.092	0.1	-.520**	.337**			

Note: N= 358, *p<.05, **p<.01

Analysis in Table 2 shows that quite a number of relationships exist between the various components of social and environmental indicators of neighbourhood quality in the study areas. The strength of the relationships however varies across pairs. Monthly household income has a correlation coefficient of 0.133 and 0.107 which signifies a weak, positive correlation with access to destinations and infrastructural facilities while a correlation coefficient of -0.195 signifies a weak positive correlation with safety and crime. This implies that access to destinations and infrastructural facilities such as electricity and hospitals improves when there is an improvement in monthly household income but at a lower rate while safety and crime decreases when there is an increase in monthly household income at a lower rate and vice versa.

Level of education also has correlation coefficient 0.275 which signifies a weak, positive correlation with solid waste collection and disposal implying that solid waste collection and disposal improves as the level of education improves at a weak rate and vice versa. A correlation coefficient of 0.155 which signifies a weak, positive correlation between level of education and level of infrastructural facilities such as electricity and hospitals implying that level of infrastructural facilities improves only when the level of education improves and vice versa. A correlation coefficient of -0.125 which signifies a weak, negative correlation between level of education and safety and crime implying that safety and crime reduces when there is an improvement in the level of education and vice versa.

Table 2 further shows a moderate, negative relationship exists between employment status and safety and crime ($r_s = -0.311$). This implies that safety and crime reduces when there is an improvement in employment status.

Type of housing also has a correlation coefficient of -0.291 which signifies a weak, negative relationship with safety and crime implying that safety and crime reduces when the type of housing improves at a weak rate and vice versa while a correlation coefficient of 0.320 which signifies a moderate, positive relationship between type of housing and level of infrastructural facilities such as electricity and hospitals implying that the level of infrastructural facilities such as electricity and hospitals improves when the type of housing improves and vice versa. A correlation coefficient of 0.164 which signifies a weak, positive correlation exists between type of housing and solid waste collection and disposal implying that solid waste collection and disposal increases when there is an improvement in the type of housing at a lower rate.

Household size has a weak, positive relationship with access to destinations and level of infrastructural facilities such as electricity and hospitals ($r_s = 0.142$ and 0.154) implying that access to destinations and level of infrastructural facilities improves as the household size increases at a lower rate and vice versa. A correlation coefficient of -0.195 which signifies a weak, negative correlation exists between household size and safety and crime implying that safety and crime reduces as the household size increases at a lower rate while a correlation coefficient of 0.255 which signifies a weak, positive relationship household size and solid waste collection and disposal implying that the level of solid waste collection increases as the household size increases weakly and vice versa.

Length of residence has a weak, negative relationship with access to destinations and level of infrastructural facilities such as electricity and hospitals ($r_s = -0.105$ and -0.149) implying that access to destinations and level of infrastructural facilities decreases as the length of residence increases at a lower rate and vice versa. A correlation coefficient of 0.316 which signifies a moderate, positive correlation exists between length of residence and safety and

crime implying that safety and crime increases as the length of residence increases at a weak rate and vice versa.

Use of whatsapp and facebook has a moderate, positive relationship with access to destinations and solid waste collection and disposal ($r_s = 3.71$ and 3.79) implying that access to destinations and solid waste collection and disposal increases as the use of whatsapp and facebook increases at a weak rate and vice versa.

H₀₂: There is no significant difference in the environmental indicators of neighbourhood quality between Abuloma and Orije Old GRA.

Table 3: T-test Table for Environmental Indicators of Neighbourhood Quality between Abuloma and Orije Old GRA

Environmental Indicators of Neighbourhood Quality	M e a n					
Levene's Test for Equality of Variances (Equal variances not assumed)	X ₁	X ₂	X ₂ -X ₁ (Diff)	P-value	T _{c r i t}	T _{c a l c}
F	269.064	15.911625034	0.000	1.645	8.825	
S i g .	.000					
T	-8.825					
D f	222					
Sig. (2-tailed)	.000					

Level of Significance: 0.05

Result:

Level of significance = 0.05

Degree of Freedom (df) = 222

Critical values = 1.645

Calculated value = 8.825

From the above table, the Levene's test for equal variances assumed is rejected, since its p-value is less than 0.05, therefore subsequent interpretations will be based on Equal variances not assumed. The critical value of t obtained at d.f.222, is given 1.645. Since the p-value (= 0.000) is less than α (= 0.05), also calculated absolute t (= 8.825) is greater than the t_{crit} (= 1.645), we therefore reject the null hypothesis which states that there is no significant difference in the environmental indicators of neighbourhood quality between Abuloma and Orije Old GRA.

H₀₃: There is no significant difference in the social indicators of neighbourhood quality between Abuloma and Orije Old GRA.

Table 4: T-test Table for Social Indicators of Neighbourhood Quality between Abuloma and Orije Old GRA

Social Indicators of Neighbourhood Quality	M e a n					
Levene's Test for Equality of Variances (Equal variances not assumed)	X ₁	X ₂	X ₂ -X ₁ (Diff)	P-value	T _{c r i t}	T _{c a l c}
F	111.789	38.974035138	0.000	1.645	7.336	
S i g .	.000					

T	-	7	.	3	3	6
D	f	2		2		8
Sig. (2-tailed)	.	0		0		0

Level of Significance: 0.05

Result:

Level of significance = 0.05

Degree of Freedom (df) = 228

Critical values = 1.645

Calculated value = 7.336

From the above table, the Levene’s test for equal variances assumed is rejected, since its p-value is greater than 0.05, therefore subsequent interpretations will be based on Equal variances not assumed. The critical value of t obtained at d.f. 228, is given as 1.645. Since the p-value (= 0.000) is less than α (= 0.05), also calculated absolute t (= 7.336) is greater than the t_{crit} (= 1.645), we therefore reject the null hypothesis which states that there is no significant difference in the social indicators of neighbourhood quality between Abuloma and Orije Old GRA.

5. Discussion of Findings

Relevant Social and Environmental Indicators of Neighbourhood Quality in the Study Area

Six components of social indicators and four components of environmental indicators of neighbourhood quality were identified in Abuloma and Orije Old GRA. The components of social indicators are monthly household income, level of education, type of house, ethnicity, household size and use of whatsapp and facebook while the components of environmental indicators are solid waste collection, access to destinations, safety and crime and the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centers, and water amenities). Response from respondents in Abuloma and Orije Old GRA is presented in Table 4.13. A cursory look at Table 4.13 shows that from the mean response gathered from respondents in Abuloma and Orije Old GRA, it was strongly agreed that the components of social and environmental indicators are major determinants of neighbourhood quality. This finding is in tandem with Rogers & Sukolratanamete, (2009) that used socio-demographic indicators like, age, gender, education, number of children, household size, length of residency and expected years to live in a neighbourhood to evaluate neighbourhood quality of an area. Social factors such as age, health, education, marriage status, number of children in the households have also been utilised by Lee (2008) to determine the quality of neighbourhood. Zhao *et al.* (2009) also made use of social interaction in evaluating human aspects that determine neighbourhood quality. Serrano (2009) highlighted some environmental indicators such as waste management, noise pollution, crime and vandalism as determinants of neighbourhood quality. Accessibility to public spaces such as local parks, the stores and elementary schools was also used by Lofti & Kooshari, (2009) to determine neighbourhood quality. Se’guin & Naud (2008) also made use of environmental factors like housing density, cultural facilities, educational facilities, health services and facilities, sport and recreational facilities, bank services and other facilities in their study to determine the quality of a neighbourhood.

Relationship between Social and Environmental Indicators on the Quality of Selected Neighbourhood.

This study assessed the relationship as well as the strength of the relationships between social and environmental indicators of neighbourhood quality in Abuloma and Orije Old GRA. This was determined by using spearman rank test correlation coefficients. Findings from this study revealed that in Abuloma, there was a weak, positive relationship between level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) and type of house, monthly household income, and employment status implying that level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) increases when there is an improvement in the type of house, monthly household income and employment status in Abuloma. There was also a strong positive relationship between level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) and residential status indicating that residential status improves when the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) improves and vice versa. This finding is supported by Campbell, (2016) who discovered that there is a positive relationship between housing satisfaction and age, income, education and job status and residential status.

There was also a weak negative relationship between residential status and safety and crime indicating that there is a decrease in the level of safety and crime when the residential status improves in Abuloma. This finding is in tandem with Tittaet *al.* (2006) that discovered that crime in neighbouring places has a similar negative effect on property values as well as crime in the same neighbourhood and have demonstrated that crime impacts differently in different types of neighbourhoods and that violence crime impacted most significantly. Ceccato&Wilhelmsson, (2009) discovered that high crime rate is strongly and negatively associated with neighbourhood quality, having a marked impact on the prices homebuyers are willing to pay for a house. However, crime is perceived as detrimental, individuals may be discouraged from buying a house and this behaviour is, in turn, reflected in the market property price. Gibbons (2004) noted, the fear of crime through its indirect effect on housing prices may also “inhibit local regeneration and catalyse a downward spiral in neighbourhood status (Buonannoet *al.*, 2012). In the words of Linden &Rockoff (2008), understanding the relationship between property values and local crime risk is useful for measuring the willingness of individuals to pay to reduce their exposure to crime risk.

Monthly household income also had a weak, positive relationship with level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) and solid waste collection and disposal in Abuloma indicating that level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) and solid waste collection and disposal improves as the monthly household income improves in Abuloma.

Employment status has a weak positive relationship with level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) indicating that level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) improves in Abuloma when employment status improves. This finding corroborates with Ghafoor (2000) who viewed infrastructural investment as an investment that can contribute the increase of economic growth. Infrastructure development is none other than a mechanism that increases the living quality of a society. In terms of economy, infrastructure development can impact the employment rate,

productivity, and income as well as give an added value. Infrastructure development can also boost political integration and reduce societal geographical gaps Ghafoor (2000).

In Orije Old GRA, the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) is weakly, positively correlated with level of education indicating that level of education improves as the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) increases. This finding is in line with Arisi (2002) who stressed that inadequate classroom spaces have resulted in over-crowding in schools. There was also a strong, positive correlation between the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) and monthly household income signifying that the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) improves as monthly income increases. Findings also revealed that there was a weak, negative correlation between the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) and safety and crime signifying that as the level of infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) improves, safety and crime is reduced in Orije Old GRA.

There was also a weak positive relationship between average household size and safety and crime in Orije Old GRA indicating that safety and crime increases when the average household size increases. Findings also revealed a strong positive relationship exists between household size and solid waste collection and disposal in Orije Old GRA indicating that level of solid waste collection and disposal increases when the average household size increases.

Safety and crime also has a strong positive correlation with length of residence indicating that safety and crime increases when the length of residence increases and vice versa in Orije Old GRA. Findings also revealed that safety and crime had a strong negative relationship with type of house and monthly household income indicating that safety and crime decreases when the type of house and monthly household income increases and vice versa. Safety and crime also had a weak negative relationship between level of education and level infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) in Orije Old GRA implying that safety and crime decreases when the level infrastructural facilities (fire stations, roads, public schools, electricity, recreational centres, and water amenities) and level of education increases and vice versa in Orije Old GRA. This finding corroborates with Boggessa *et al.*, (2013); Ihlanfeldt & Mayock, (2010); George *et al.*, (2006) that established that neighbourhood crime impact on property values negatively and increase vacancy rates.

6. Conclusion

In this study residents rated neighbourhood quality indicators in Abuloma and Orije Old GRA in Port Harcourt municipality. The study found that most residents in the two neighbourhoods strongly agreed that monthly household income, level of education, type of house, ethnicity, household size, and use of whatsapp and facebook are social indicators of neighbourhood quality while solid waste collection, access to destinations, crime and safety and level of infrastructural facilities are environmental indicators of neighbourhood quality. The study found that most residents in the Abuloma rated environmental indicators of neighbourhood quality solid waste collection as inadequate but was adequate in Orije Old GRA, however most residents were undecided on access to destinations and safety and crime. Majority of resident were satisfied with their social status such as monthly household income

level, level of education, ethnic group, type of housing and with use of whatsapp and facebook as a means of social interaction. Majority of the residents in Abuloma and Orije Old GRA rated the level of infrastructure endowment such as fire stations, fire stations, public schools, recreational areas as inadequate while maintenance of roads was only inadequate in Abuloma.

The study concluded that government intervention in terms of infrastructure and environmental indicators such as solid waste collection is absent. The study recommended that government should intervene in these areas to improve the neighbourhood quality to achieve sustainability.

Recommendations

The following recommendations that are essential for improvement of neighbourhood quality after the study was analysed are as follows:

1. Government should provide more fire stations in Abuloma and Orije Old GRA.
2. Government should improve the solid waste collection in these areas to enhance the neighbourhood quality to achieve environmental sustainability.
3. Government should create more police stations in these areas to reduce crime and increase the safety of lives and properties in these areas.
4. There is a need for giving social media education and creating awareness on the importance of social media platforms such as WhatsApp and Facebook in enhancing neighbourhood quality.
5. Government should help improve on the existing road conditions in these areas to help increase the accessibility in order to achieve sustainability.

PROJECTED POPULATION FOR 2019

Y e a r	A b u l o m a	O r i j e O l d G R A
1 9 9 1	1 0 4 5 4	6 4 8 2
1 9 9 2	1 0 7 4 8 . 8 0 2 8	6 6 6 4 . 7 9 2 4
1 9 9 3	1 1 0 5 1 . 9 1 9 0 4	6 8 5 2 . 7 3 9 5 4 6
1 9 9 4	1 1 3 6 3 . 5 8 3 1 6	7 0 4 5 . 9 8 6 8 0 1
1 9 9 5	1 1 6 8 4 . 0 3 6 2	7 2 4 4 . 6 8 3 6 2 9
1 9 9 6	1 2 0 1 3 . 5 2 6 0 2	7 4 4 8 . 9 8 3 7 0 7
1 9 9 7	1 2 3 5 2 . 3 0 7 4 6	7 6 5 9 . 0 4 5 0 4 8
1 9 9 8	1 2 7 0 0 . 6 4 2 5 3	7 8 7 5 . 0 3 0 1 1 8
1 9 9 9	1 3 0 5 8 . 8 0 0 6 5	8 0 9 7 . 1 0 5 9 6 7
2 0 0 0	1 3 4 2 7 . 0 5 8 8 2	8 3 2 5 . 4 4 4 3 5 5
2 0 0 1	1 3 8 0 5 . 7 0 1 8 8	8 5 6 0 . 2 2 1 8 8 6
2 0 0 2	1 4 1 9 5 . 0 2 2 6 8	8 8 0 1 . 6 2 0 1 4 3

2 0 0 3	1 4 5 9 5 . 3 2 2 3 1	9 0 4 9 . 8 2 5 8 3 2
2 0 0 4	1 5 0 0 6 . 9 1 0 4	9 3 0 5 . 0 3 0 9 2
2 0 0 5	1 5 4 3 0 . 1 0 5 2 8	9 5 6 7 . 4 3 2 7 9 2
2 0 0 6	1 5 8 6 5 . 2 3 4 2 5	9 8 3 7 . 2 3 4 3 9 7
2 0 0 7	1 6 3 1 2 . 6 3 3 8 5	1 0 1 1 4 . 6 4 4 4 1
2 0 0 8	1 6 7 7 2 . 6 5 0 1 3	1 0 3 9 9 . 8 7 7 3 8
2 0 0 9	1 7 2 4 5 . 6 3 8 8 6	1 0 6 9 3 . 1 5 3 9 2
2 0 1 0	1 7 7 3 1 . 9 6 5 8 8	1 0 9 9 4 . 7 0 0 8 6
2 0 1 1	1 8 2 3 2 . 0 0 7 3 1	1 1 3 0 4 . 7 5 1 4 3
2 0 1 2	1 8 7 4 6 . 1 4 9 9 2	1 1 6 2 3 . 5 4 5 4 2
2 0 1 3	1 9 2 7 4 . 7 9 1 3 5	1 1 9 5 1 . 3 2 9 4
2 0 1 4	1 9 8 1 8 . 3 4 0 4 6	1 2 2 8 8 . 3 5 6 8 9
2 0 1 5	2 0 3 7 7 . 2 1 7 6 6	1 2 6 3 4 . 8 8 8 5 5
2 0 1 6	2 0 9 5 1 . 8 5 5 2	1 2 9 9 1 . 1 9 2 4 1
2 0 1 7	2 1 5 4 2 . 6 9 7 5 2	1 3 3 5 7 . 5 4 4 0 3
2 0 1 8	2 2 1 5 0 . 2 0 1 5 9	1 3 7 3 4 . 2 2 6 7 7
2 0 1 9	2 2 7 7 4 . 8 3 7 2 7	1 4 1 2 1 . 5 3 1 9 7
2 0 2 0	2 3 4 1 7 . 0 8 7 6 9	1 4 5 1 9 . 7 5 9 1 7

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