



## **Influence of rapid urbanization on environmental quality in selected neighborhoods of Port Harcourt Metropolis**

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### **Abstract**

This study assessed the influence of rapid urbanization on environmental quality in selected neighborhoods of Port Harcourt city. The investigation used both primary and secondary data sources. Primary data were collected using a structured household questionnaire was distributed to the selected neighborhoods. The study identified that population growth can cause changes to the state of solid waste collection, drainage system, basic water facilities and urban landscape in the selected neighborhoods in Port Harcourt. The study further reveals that provision of waste receptacle were inadequate in Port Harcourt (PH) Township thereby resulting to inadequate frequency of waste collection in the neighborhoods; also due to inadequate drainage facilities there was occurrence of flood in Mgbuoba and PH Township. The lack of adequate drainage system has resulted in the occurrence of flood in Mgbuoba and PH Township. Solid waste collection facilities are not adequate in all the selected neighborhoods thereby resulting in improper sanitary conditions in the neighborhoods. The Loss of vegetation cover due to urbanization has led to the reduction in the aesthetic quality and also decrease in green spaces. It was recommended to achieve an adequate environment; the government should provide adequate infrastructure for both the rural and urban areas as this will cut down the rate of population growth that put pressure on the urban environment.

**Key words:** Rapid urbanization, environmental quality, population growth, Neighborhoods, Port Harcourt.

### **Introduction**

The interplay of Urbanization and the environment cannot be overemphasized. The rapid growth in population as a result of rural-urban migration into such urban areas as well as springing up of industrial activities poses a challenge to the environment. The high influx of individuals from rural areas into urban centres to take advantage of the chances available in the urban areas lacking suitable measures as well as administration tactics to lodge the increasing population, result to severe burden on the environment. This has resulted to various environmental problems which include air, water and land pollution, climate

alteration, traffic congestion, increased energy demand, inadequate housing and sanitation facilities, reduction in vegetation production and carbon sequestration.

In Nigeria, the National Population Commission (1991), observed the urban area demand for infrastructure has exceeded the carrying capacity of the environment. This impact from this inequality between population and the environmental resources and this resulting in an adverse effect of the urban areas in the country, thereby leading to meagre value living conditions of individuals in the urban areas in Nigeria.

The increased rate of population growth coupled with inadequate plan to accommodate the areal expansion put countless burden on the urban environment which include meagre value housing as well as residential environment also problems of air water as well as land pollution, improper waste management and more of Port Harcourt to a point it is difficult to be managed.

Thus, the drive of this study is to analyze the influence of urbanization on environmental quality in selected neighborhoods' in Port Harcourt.

### **Statement of the Problem**

The increase rate of population growth coupled with inadequate plan to accommodate the areal expansion put countless burden on the urban environment which include meagre value housing as well as residential environment also problems of air water as well as land pollution, improper waste management and more of Port Harcourt to a point it is difficult to be managed. The increase rate of population growth coupled with inadequate plan to accommodate the areal expansion put countless burden on the urban environment which include meagre value housing and residential environment also problems of air water as well as land pollution, improper waste management and more of Port Harcourt to a point it is difficult to be managed.

The increasing demand for new infrastructures will erode the ability for cities to maintain existing infrastructure. The inability for cities to expand as well as maintain transport facilities in response to increasing demand leading to unsafe conditions such as poor traffic situations, increased accident rates, poorly controlled traffic as well as congestion. Hence the following goal and objectives are put forward in the assessment process of this study.

### **Goal and Objectives of the Study**

The goal of this study is to access the influence of urbanization on environmental quality in selected neighborhoods in Port Harcourt.

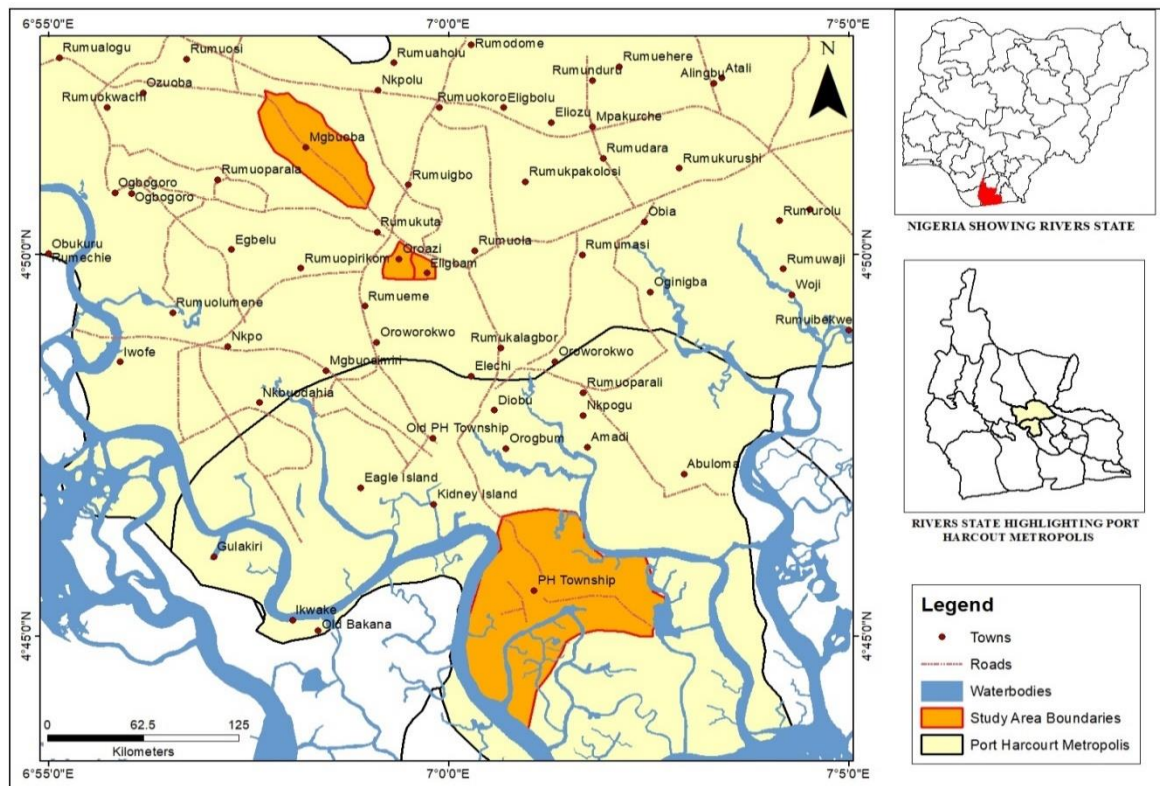
The objectives of the study are to:

- i. Determine how population growth affects environmental quality in the selected neighborhoods in Port Harcourt
- ii. Examine the perception of residents has on the environmental quality of the selected neighborhoods of Port Harcourt;

### **Study Area Description**

This study covers selected neighborhoods' which include Orazi Rumueme and Port Harcourt Township in Port Harcourt city of River State. This study covers selected neighborhoods' which include Mgbuoba, Port Harcourt Township and Orazi Rumueme and Eligbam Rumueme in Port Harcourt city of River State, It is said to be one of Nigeria fastest growing cities, the fast development and urbanization of the city has been energized by the huge inundation of individuals from the encompassing hinterland to the city for openings for work in different businesses that jumped up because of the realization of oil in the Niger Delta (Chima & Inah, 2012).

Port Harcourt has been an important merchant port and today it is a centre of Nigerian's oil industry (NDES, 2000). Most economic activities in River State is situated in Port Harcourt. The expansion of industrial and commercial activities during the consolidation period of 1925 – 1944 is what led to the creation of this industrial area and increase in economic activities naturally giving rise to population growth and urban development



**Fig 1: Map of Rivers State showing Port Harcourt Metropolis, the study location**

**Review of Relevant Literature**

The design and attributes of urbanization in Nigeria has been worrisome. The town and urban areas have developed exceptionally with movement of urbanization in Nigeria indicating phenomenally high paces of 5% - 10% per annum (Egunjobi, 1999). This rapid rate of urbanization has endangered the nation to several problem which comprise insufficient and meagre housing; building shanty areas; insufficient water source; inadequate financial resources, high rate of unemployment and underemployment, expansion of squatter settlement, increased poverty, growing insecurity and increase crime rate, inadequate and deteriorating building, services and infrastructures (Dung- Gwom et al., 2008., Rotimi, 2003).

Dawan and Ebehikhalu (2007) surveyed the effect of urbanization on the metropolitan and country climate of Nigeria. They inspected the cycle of metropolitan development, cases and effect of urbanization has the negative impact of terminating the country regions and debasing the metropolitan regions. This represents the issue of neediness which show in method of ghettos, framework, violations, joblessness and bad quality life.

Environmental contamination is steadily turning into a threat in urban communities everywhere on the world. Joined Nations Environment Program (UNEP) outstandingly revealed that "quick industrialization and thriving urban areas have caused expanding creation of hurtful contamination in most metropolitan regions. The fast urbanization in significant urban communities of Nigeria is joined by rising vehicle numbers and subsequently increments in the arrival of vehicle exhaust which discharges carbon monoxide into the environment coming about to air contamination (Onokala, 2008).

As per Ghosh et al. (2014), unforeseen populace development is identified with water quality debasement and in causing enormous increment in supplements and microbial burden. Land use change because of urbanization has changed the stream examples of waste water and tempest water, this at last affects the sea-going life in the getting water for example waterway (Astaraie-Imani et al., 2012). Studies have recognized aimless removal of waste, modern and agrarian exercises are the significant reasons for land contamination in Nigeria (Galadima, 2012; Adebisi et al., 2010).

The remarkable increment in the populace in Nigerian urban areas persistently put focus on lodging offices. Most influenced bunches are the workers from the rustic interland that want to settle at suburbia of the urban communities, this is capable being developed of ghettos and squattered settlement at the peri metropolitan territories (Olujimi & Gbadamosi, 2007). Strong waste created is legitimately relative to the degree of urbanization in this way measure of waste per territory is a component of financial status, industrialization and commercialization (Adewole, 2009). An examination (Ogundiran & Afolabi 2008) of leachate qualities in a Lagos landfill uncovered dangerous waste from enterprises and non-perilous waste, for example, family unit squander remains completely unloaded in a similar landfill. This is perilous to the climate as the squanders are unloaded in the landfill without treatment. An examination by Izugbara et al. (2004) uncovers that impurities from these dumps can get into the natural way of life through a few methods including crops planted a few miles from the landfill site.

Quick urbanization as well as industrialization have come about to huge loss of arable land (Geymen & Baz, 2007). There has been change in land use – land spread because of urbanization, these progressions have assumed a significant function in the spillover age due to adjustment in other hydrological cycles, for example, invasion, evapotranspiration, capture and disintegration (Melese & Shih, 2002). Most flood event in more urban communities in Nigeria are because of helpless awareness of occupants on natural regions, squander dump and development of structures on waterway channels without satisfactory measures for water stream (Emeribeole, 2015). As indicated by (Floater et al., 2014) urbanization has direct impact on the danger of flood specifically, the issue of measuring sterilization or tempest water the executives work in accordance with the necessities, the restrictions of use in developing urban areas of strategies or norms which end up being powerful in creating urban communities.

**Research Method**

The research implemented Ex-Post Facto research design. It remained useful in determining the relationship between rapid urbanization and environmental quality. The study population includes the entire inhabitant of the selected neighborhoods of Port Harcourt which include Mgbuoba, Port Harcourt Township, Orazi Rumueme and Eligbam Rumueme. The selected neighborhoods’ population from 1991 population was projected for 2019 using Microsoft excel and the growth rate of 4.24% (World Bank, 2019). The sample size for this study was determined using Taro Yamani Formula.

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

Where;

n= sample size required

N= the finite population

l= constant

e= level of significance (0.05)<sup>2</sup>

Via formula, a sample size of 400 was obtained. A systematic random sampling procedure was used in the following steps:

- a) The selection of the streets in the selected neighborhoods in Port Harcourt Metropolis
- b) Selection of household in the selected street to be sampled
- c) Selection of individuals as household respondents from each sampled household.

**Table 1**

*Selected Sample Neighborhoods’, the projected population, the sample size and percentage.*

S/N	Neighbourhood	Population Census 1991	Projected Population 2019	Sample Size	Percentage
1	Mgbuogba	2308	7303	33	8%
2	Port Harcourt Township	12369	39141	178	44.5%
3	Orazi Rumueme	11014	34853	158	39.5%
4	Eligbam Rumueme	2162	6842	31	8%
	Total	23383	73994	400	100%

Source: Rivers State Ministry of Budget, 2013 and calculations by the researcher.

### Results and Discussion

This section focuses on presentation and analysis of findings. The data presented in this study are obtained from response of the sampled respondent from the questionnaire distributed across the selected neighborhoods. 400 replicas of questionnaire were distributed based on sampled size of each neighborhood in which 367 copies were valid and returned

#### How Population Growth Affects Environmental Quality in the Selected Neighborhoods

Table 2 displays the findings on how population growth cause changes to environmental quality in the selected neighborhoods in Port Harcourt. The findings show the responses if population growth cause changes to the drainage system in the selected neighborhood, where the mean responses were 3.69, 3.59, 3.89 and 3.52 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively. Also, the table shows the responses if population growth cause changes to solid waste collection in the selected neighborhood, where the mean were 4.14, 4.79, 4.83 and 4.28 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively. The table also shows the mean responses if population growth cause changes to basic water facilities in the selected neighbourhood, where the mean responses were 3.55, 4.86, 3.89 and 3.59 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively. Finally, the table shows the responses if population growth cause changes to urban landscape in the selected neighborhood, where the mean responses were 4.24, 3.59, 3.95 and 3.76 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively.

**Table 2:**  
*How Population Growth Affects Environmental Quality in the Selected Neighbourhoods*

Population growth cause changes to the drainage system in your neighborhood.	Mgbougba		PH Township		Orazi Rumueme		Eligbam Rumueme	
	F	%	F	%	F	%	F	%
Strongly disagree	1	3	2	1	0	0	0	0
Disagree	7	24	7	4	8	5	2	7
Undecided	0	0	2	1	0	0	0	0
Agree	16	55	127	78	43	30	19	65
Strongly Agree	5	17	25	15	94	65	8	28
Total	29	100	163	100	145	100	29	100
Mean		3.69		3.59		3.89		3.52
Standard Deviation		0.79		0.82		0.46		0.87

Population growth cause changes to solid waste collection in your neighborhood.	Mgbougba		PH Township		Orazi Rumueme		Eligbam Rumueme	
	F	%	F	%	F	%	F	%
Strongly disagree	0	0	0	0	0	0	0	0

*Influence of rapid urbanization on environmental quality*

Disagree	7	24	11	6	7	5	1	3
Undecided	0	0	0	0	0	0	0	0
Agree	17	59	62	38	17	12	11	38
Strongly Agree	5	17	90	55	113	78	17	59
Total	29	100	163	100	145	100	29	100
Mean		4.14		4.79		4.83		4.28
Standard Deviation		0.69		0.41		0.69		1.31

Population growth cause changes to basic water facilities in your neighborhood.

	F	%	F	%	F	%	F	%
Strongly disagree	0	0	0	0	0	0	0	0
Disagree	3	10	8	5	9	6	10	35
Undecided	8	27	2	1	0	0	4	14
Agree	18	62	61	37	124	85	14	48
Strongly Agree	0	0	91	55	12	8	1	1
Total	29	100	163	100	145	100	29	100
Mean		3.55		4.86		3.89		3.52
Standard Deviation		0.63		0.52		0.46		0.87

Population growth cause changes to urban landscape in your neighbourhood.

	Mgbougba		PH Township		Orazi Rumueme		Eligbam Rumueme	
	F	%	F	%	F	%	F	%
Strongly disagree	0	0	0	0	1	1	1	3
Disagree	3	10	28	17	16	11	10	35
Undecided	0	0	5	3	8	4	1	3
Agree	8	28	87	54	101	70	17	59
Strongly Agree	18	62	43	26	22	15	0	0
Total	29	100	163	100	145	100	29	100
Mean		4.24		3.59		3.95		3.76
Standard Deviation		1.24		0.83		0.23		0.44

**The state of Environmental Quality in the Selected Neighborhoods in Port Harcourt**

Table 3 displays the findings on the state of environmental quality in the selected neighborhoods in Port Harcourt. The findings show for drainage system, the responses if the drainage system in their neighbourhood is efficient, where the mean responses were 2.10, 2.20, 4.00 and 4.00 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively. The responses if the drainage system in their neighbourhood is maintained, where the mean responses were 1.93, 2.41, 3.05 and 3.24 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively, Also the responses if the state of the drainage system in their neighbourhood leads to the occurrence of flood, where the mean responses were

4.00, 3.58, 2.48 and 2.49 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively.

The findings show for solid waste collection, the responses if solid waste collection is carried out frequently in their neighborhood, the mean responses were 3.47, 2.58, 3.41 and 3.48 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively. Also, the responses for if adequate solid waste facilities are available in the selected neighbourhoods, where the mean were 2.28, 2.48, 2.48 and 2.28 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively. The responses for the state of solid waste collection facilities leads to improper sanitary condition in the selected neighborhoods, where the mean responses were 3.72, 3.59, 3.89 and 3.52 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively.

The findings also show for basic water facilities, the responses for if basic water facilities are adequate in the selected neighborhoods, where the mean responses are 3.58, 1.59, 3.59 and 3.52 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively. Also, the responses for if the level of water supply is adequate in their neighbourhood was shown, where the mean are 4.00, 2.11, 4.00 and 4.13 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively. The responses of are the state of basic water facilities leads to water scarcity in their neighborhood, where the mean responses 2.00, 4.00, 2.00 and 2.52 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively.

Finally, findings show for vegetation cover, the responses for if loss of vegetation cover lead to reduction of aesthetic quality of the selected neighborhood, were the mean responses are 3.76, 3.58, 4.13 and 3.52 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively. Also, the responses if the decrease in vegetation cover results to loss of valuable trees and plants on neighborhood, were the mean responses are 4.00, 3.79, 4.01 and 4.00 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively. Also, shown are responses of if the extinction of vegetation cover results to decrease in green spaces in your neighborhood, were the mean responses are, 4.58, 4.79, 4.94 and 4.76 for Mgbuoba, PH Township, Orazi Rumueme and Eligbam Rumueme respectively.

**Table 3**  
*The State of Environmental Quality in the selected Neighborhoods in Port Harcourt.*

Drainage System		Mgbuoba		PH Township		Orazi Rumueme		Eligbam Rumueme	
The drainage system in your neighbourhood is efficient.									
	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	
Strongly disagree	5	17	30	21	1	1	1	3	
Disagree	18	63	103	63	26	18	6	21	
Undecided	5	17	0	0	1	1	0	0	
Agree	1	3	26	16	103	71	21	73	
Strongly Agree	0	0	4	2	14	10	1	3	
Total	29	100	163	100	145	100	29	100	
Mean		2.10		2.20		4.00		4.00	
Standard Deviation		0.82		0.41		0.04		0.04	
The drainage system in your neighbourhood is		Mgbuoba		PH Township		Orazi Rumueme		Eligbam Rumueme	

properly maintained.	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>
Strongly disagree	10	35	24	15	1	1	1	3
Disagree	15	52	121	74	22	15	5	17
Undecided	0	0	5	3	66	46	13	45
Agree	4	13	13	8	51	35	9	31
Strongly Agree	0	0	0	0	6	4	1	3
Total	29	100	163	100	145	100	29	100
Mean		1.93		2.41		3.05		3.24
Standard Deviation		0.96		0.82		0.22		0.43

The state of drainage system leads to the occurrence of flood in your neighborhood.	Mgbuoba		PH Township		Orazi Rumueme		Eligbam Rumueme	
	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>
Strongly disagree	0	0	0	0	18	12	7	24
Disagree	3	10	10	6	88	61	16	55
Undecided	0	0	0	0	3	2	0	0
Agree	20	69	117	72	34	23	6	21
Strongly Agree	6	21	36	22	2	1	0	0
Total	29	100	163	100	145	100	29	100
Mean		4.00		3.58		2.49		2.48
Standard Deviation		0.00		0.82		0.46		0.87

Solid Waste Collection Solid waste collection is carried out frequently in your neighbourhood.	Mgbuoba		PH Township		Orazi Rumueme		Eligbam Rumueme	
	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>
Strongly disagree	0	0	13	8	0	0	0	0
Disagree	4	13	117	72	8	6	7	24
Undecided	0	0	0	0	0	0	0	0
Agree	19	66	27	17	137	94	22	76
Strongly Agree	6	21	6	3	0	0	0	0
Total	29	100	163	100	145	100	29	100
Mean		3.47		2.58		3.41		3.48
Standard Deviation		0.94		0.82		0.45		0.87



Adequate solid waste collection facilities are available in your neighbourhood	Mgbuoba		PH Township		Orazi Rumueme		Eligbam Rumueme	
	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>
Strongly disagree	4	14	29	18	0	0	0	0
Disagree	22	76	127	77	137	94	22	76
Undecided	0	0	0	0	0	0	0	0
Agree	3	10	8	5	8	6	7	24
Strongly Agree	0	0	0	0	0	0	0	0
Total	29	100	163	100	145	100	29	100
Mean		2.28		2.41		2.41		2.28
Standard Deviation		0.70		0.82		0.45		0.87

The state of solid waste collection facilities leads to improper sanitary conditions in your neighbourhood.	Mgbuoba		PH Township		Orazi Rumueme		Eligbam Rumueme	
	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>
Strongly disagree	1	3	0	0	0	0	0	0
Disagree	6	21	26	16	8	6	5	17
Undecided	0	0	0	0	0	0	0	0
Agree	21	72	134	82	132	91	20	69
Strongly Agree	1	3	3	2	5	3	4	14
Total	29	100	163	100	145	100	29	100
Mean		3.72		3.59		3.89		3.52
Standard Deviation		0.71		0.41		0.46		0.87

Vegetation Cover Loss of vegetation cover leads to reduction in the aesthetic quality in your neighbourhood.	Mgbuoba		PH Township		Orazi Rumueme		Eligbam Rumueme	
	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>
Strongly disagree	0	0	2	1	0	0	0	0
Disagree	6	21	2	1	5	3	5	17
Undecided	0	0	0	0	0	0	0	0

Agree	18	62	137	84	134	92	24	83
Strongly Agree	5	17	22	14	7	5	0	0
Total	29	100	163	100	145	100	29	29
Mean	3.76		3.58		4.13		3.52	
Standard Deviation	0.98		0.82		0.67		0.87	
The decrease in vegetation cover results to loss of valuable trees and plants on neighborhood	Mgbuoba		PH Township		Orazi Rumueme		Eligbam Rumueme	
	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>
Strongly disagree	0	0	0	0	0	0	0	0
Disagree	6	21	2	1	2	1	3	10
Undecided	0	0	0	0	0	0	0	0
Agree	17	58	139	85	139	96	26	90
Strongly Agree	6	21	22	14	4	3	0	0
Total	29	29	163	100	145	100	29	100
Mean	4.00		3.79		4.01		4.00	
Standard Deviation	0.65		0.41		0.08		0.04	
The extinction of vegetation cover results to decrease in green spaces in your neighborhood	Mgbuoba		PH Township		Orazi Rumueme		Eligbam Rumueme	
	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>
Strongly disagree	0	0	0	0	0	0	0	0
Disagree	0	0	13	8	4	3	3	10
Undecided	0	0	0	0	0	0	0	
Agree	12	41	35	21	43	30	7	24
Strongly Agree	17	58	115	71	98	67	19	66
Total	29	100	163	100	145	100	29	100
Mean	4.58		4.79		4.94		4.76	
Standard Deviation	0.50		0.41		0.22		0.44	

### **Discussion**

The finding revealed that population growth affects environmental quality in the selected neighborhoods in Port Harcourt Greater part of the respondents in all selected neighborhoods agreed that population growth can cause a change to the drainage system in their neighborhoods. This finding is in accordance with Ashley et al. (2005) who noted populace development and metropolitan turn of events, particularly the fixing of surfaces and land use change, squeezed metropolitan water framework as some extreme flooding occasions in the current past have appeared. Especially associating recently created

regions to the current waste structure put zones in danger which have not been imperiled by flooding previously.

Also, majority of respondents in Mgbuoba agreed and the other selected neighborhoods strongly agreed population growth can cause changes to solid waste collection in their neighbourhood. Solid waste generation and collection is a problem factor that determines the quality of the environment in every parts of the world, especially in urban centers (Valkenburg et al., 2008). As per Adejobi et al. (2012) The volume of waste produced and gathered in any city is frequently an impression of the power of human exercises, for example, populace development, urbanization and social turn of events, assets misuse and unchecked innovative progression.

Majority of respondents in PH Township strongly agreed and the other selected neighborhoods agreed population growth can cause changes to basic water facilities in their neighborhood. This finding collaborates with Pimentel et al. (2004) who found that populace development, quick urbanization, joined by expanded water use, won't just seriously decrease water accessibility per individual yet in addition make weight on biodiversity in the whole worldwide biological system.

Also, majority of respondents in Mgbuoba strongly agreed and the other selected neighborhoods agreed population growth can cause changes to the urban landscape of their neighborhood. This finding collaborates with Turner et al. (2004) finds that notes scene designs are progressively impact by urbanization, bringing about a scene mosaic of normal and oversaw patches shifting in size, shape and game plan. For instance, urbanization has forcefully expended cropland, prompting helpless land use structure and significant issues undermining biological system administrations and human prosperity.

Findings also examined the perception residents have on the state of the environmental quality in their neighborhoods. Which revealed on drainage system, majority of respondents in Mgbuoba and PH Township disagreed and those in Orazi Rumueme and Eligbam Rumueme agreed that the drainage system in their neighborhood is efficient. Also, respondents in Mgbuoba and PH Township disagreed and those in Orazi Rumueme and Eligbam Rumueme were unsure the drainage system in their neighbourhood were maintained and finally, respondents in Mgbuoba and PH Township agreed and those in Orazi Rumueme and Eligbam Rumueme disagreed that the state of drainage system leads to the occurrence of flood in their neighborhood. This finding corroborates Banerjee and Morella (2011) The need to give appropriate waste and sterilization services is fundamental to coordinate with the ever-expanding populace development. Offiong et al. (2009) Urban conditions in Nigeria are confronted with bunch issues with respect to helpless waste framework and water tight structures which are the significant reasons for flooding.

On solid waste collection, a large amount of respondents in PH Township disagreed and the other selected neighborhoods agree that solid waste collection is carried out frequently in their neighborhoods, also, respondents in all selected neighborhoods disagreed that adequate solid waste collection facilities are available in their neighborhoods and finally respondents in all selected neighborhoods agreed that the state of solid waste collection facilities leads to improper sanitary conditions in their neighborhoods. This finding also corroborates with Igoni et al. (2007) who discovered that albeit huge amounts of the decline created in Port Harcourt are gathered some are left to frame litters in part of the city.

On basic water facilities, majority of the respondents in all selected neighborhoods agreed expect PH Township who disagreed basic water facilities are adequate in their neighborhood, also, respondents in all selected neighborhoods agreed expect PH Township who disagreed that the level of water supply in their neighborhood is adequate and finally all respondents in all selected neighborhoods disagreed expect PH Township who agreed the state of water facilities can lead to water scarcity in their neighborhood. This finding also corroborates with Pimentel et al. (2004) who discovered that population growth, rapid urbanization, accompanied by increased water use, will not only severely reduce water availability per person but also create stress on biodiversity in the entire global ecosystem.

On vegetation cover, majority of respondents in all the selected neighborhood agreed loss of vegetation cover leads to reduction in the aesthetic quality in their neighborhood, also respondents in all selected neighborhoods agreed the decrease in vegetation cover results to loss of valuable trees and plants in their neighborhood and finally majority of respondents in all the selected neighborhood strongly agreed the

extinction of vegetation cover results to decrease in green spaces in their neighborhoods. This finding is consistent with finding from Pimentel and Burgess (2013) that the loss of vegetation cover is particularly wide spread in creating nations where populace is enormous and rural practices are regularly insufficient to secure the top soil.

### **Conclusion**

Port Harcourt city faces rapid urbanization challenges which have greatly affected environmental quality. This study examined the influence of rapid urbanization on environmental quality. This paper focused on selected neighborhoods which were Mgbuogba, PH Township, Orazi Rumueme and Eligbam Rumueme. Based on this study, most respondents in the selected neighborhoods identified that population growth can cause changes to the state of solid waste collection, drainage system, basic water facilities and urban landscape. The study further reveals that provision of waste receptacle were inadequate in PH Township thereby resulting to inadequate frequency of waste collection in the neighborhoods'; also due to inadequate drainage facilities there was occurrence of flood in Mgbuogba and PH Township. The lack of adequate drainage system has resulted in the occurrence of flood in Mgbuogba and PH Township and not in Orazi Rumueme and Eligbam Rumueme where the drainage system is adequate. Although solid waste collection was carried out frequently in all the selected neighborhoods except PH Township, solid waste collection facilities are not adequate in the selected neighborhoods thereby resulting in improper sanitary conditions in the neighborhoods. Basic water facilities are adequate in all selected neighborhoods except PH Township, thereby the level of water supply is adequate in all the selected neighborhoods except PH Township. The Loss of vegetation cover due to urbanization has led to the reduction in the aesthetic quality, loss of valuable plants and trees and also decrease in green spaces. To achieve an adequate environment, the government should provide adequate infrastructure for both the rural and urban areas as this will cut down the rate of population growth that put pressure on the urban environment as well as regulation of land use activities so as to sanction activities that contravene with its regulations.

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