

## Challenges and Prospect of Slum Development Areas in Port Harcourt, Nigeria

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### Abstract

The study evaluates the challenges and prospects of the slum development area in Port Harcourt, Nigeria. A survey research design was used for this study. The data was through surveys, observations, interviews, and questionnaires. The study found that the majority of structures in the study region are tenement buildings (45.46%), the occupancy ratio is larger than 4. (60.72). Windows and doors are made of wood (51.25%), metal sheet roofing dominates slum construction (54.15), and concrete and cement make up most flooring (71.48). The study also found that most slum people use Bush/anywhere (41.34) as a toilet due to a lack of infrastructure. Restrooms and bathrooms are built outside (42.56% and 45.75%), even with sticks and cloths, 42.56% of cooking is done in the room. Environmental degradation was strongly correlated with slum dwellings ( $p=1.1346, 1.86$ ). The study found that slum dwellers face many obstacles, including inferior housing and poor environmental and structural conditions. Government needs to invest in affordable housing, adopt zoning and land use restrictions, and more to solve such issues.

**Keywords:** Housing, Housing facilities, Slum, Slum development, urban growth

### 1 Introduction

Housing is a fundamental aspect of human well-being and a basic human right; however, access to decent and affordable housing remains a major challenge for many people, particularly in urban areas (United Nations, 1948). According to the United Nations (2021), around 1.8 billion people,

or almost one quarter of the global urban population, live in slums and informal settlements. These areas often lack basic services such as clean water, sanitation, and waste collection, and are characterised by overcrowding, inadequate planning, and substandard housing (UN-Habitat, 2016).

Port Harcourt, being the primate city of Rivers State and a major oil-producing centre in Nigeria, is facing a number of challenges that have contributed to the growth of slums in the city. These challenges include high living costs, unemployment, low incomes, traffic congestion, inadequate housing, and poor infrastructure (UNCHS, 2007). The rapid growth of slums in Port Harcourt can be attributed to factors such as the oil boom of the 1970s, industrialisation and commercialisation, migration, and the availability of better job prospects and social amenities in the city (Obi-Ani & Isiani, 2020).

In developing countries like Nigeria, due to poor management, poor control, and inadequate spatial forecasting techniques, urbanisation aggravates slum creation. It has been noted that the demand for urban services in Nigeria has grown over the years, but the overall quality and coverage of public services have deteriorated; thus, slums develop in cities (Lanrewaju, 2012). In line with this, slums are synonymous with poverty, low-income people, and inferior living conditions.

The Oxford Advanced Learner's Dictionary captures slums as streets of old buildings in poor and dirty conditions, often crowded with people. Slums are communities characterised by overcrowding, high occupancy ratio, dilapidated structures, and general features of vandalism, deterioration, unsanitary conditions, and absence of facilities. The problem of slums and housing in Port Harcourt is attributed to the insensitivity of landlords to the dwelling needs of tenants and the shortage of dwelling units among the different socio-economic brackets of the urban population (Omar, 2003).

In response to this great demand for shelter, unplanned and sub-standard private housing districts continue to emerge. Some are illegally developed, some are located on the waterfront, while some intersperse within abandoned residential areas in the city. Most of the houses lack clean drinking water, electricity, drainage, and access roads, relying on very narrow alleys. Poor structural quality of housing, overcrowding, inadequate sewage (if there is any), and poor refuse disposal are common, creating breeding areas for social vices such as crime, alcoholism, addiction, prostitution, kidnapping, and others.

It is not yet known whether the conditions of slum areas in Port Harcourt are improving or worsening when compared with other regions. On this premise, this study investigates the challenges and prospects of slum development areas in Port Harcourt, Nigeria.

### 1.1 Research Questions

- To what extent is the spread of substandard houses and housing facilities in the slum area in Port-Harcourt?
- What are the structural conditions of building in the study area?
- What is the relationship between slum housing facilities and environmental degradation

### 1.2 Objective of the Study

The specific objectives of the study are to:

- examine the spread of substandard houses and housing facilities in the slum area in Port-Harcourt;
- investigated the structural condition of building in the study area; and
- assess the relationship between slum housing facilities and environmental degradation.

### 1.3 Research Hypothesis

Ho: There is statistically significant relationship between slum housing facilities and environmental degradation

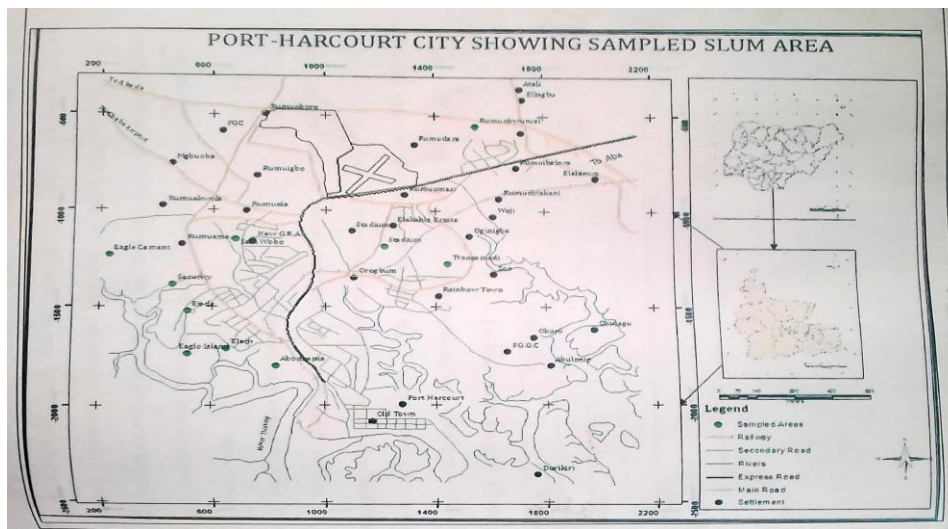
H<sub>1</sub>: There is no statistically significant relationship between slum housing facilities and environmental degradation

## 2 Methodology

Data for this study were collected using both primary and secondary sources. Primary data were gathered through observation and survey, interviews, and the administration of questionnaires. A reconnaissance survey of the study area was conducted to gather information on the size, distribution, and spatial spread of slums in Port-Harcourt city, as well as the dwelling sizes and occupation ratios in these areas. Interviews with community leaders and government personnel residing in the study area were also conducted to gather additional information. These questionnaires contained 32 items divided into four sections: demographic information, information on house infrastructure, information on building and environmental conditions, and

general observations and satisfaction with housing conditions. Secondary data sources included previous published and unpublished materials on housing slums in Port-Harcourt. Total enumeration sampling was used for this study, with 25 slum areas identified (four of which had been demolished by the government). A sample of 0.50% was drawn from the estimated housing units in these areas, based on the researcher's field work.

For the study, a total of 1,568 copies of the questionnaire were distributed, and 1553 of those were returned. frequency counts, percentages, Pearson product moment correlation, and the t-test were used to analyse the data.



**Figure 1:** Map of Portharcourt City, and the slump area

*Source: Olasoji and Oladipupo, 2021*

### 3 Results

**3.1 Research Question One:** To what extent are the spread of substandard houses and housing facilities in the slump area in Port-Harcourt?

**Table 1:** Building Type

Building type	Frequency	%
Self-Contain	225	14.49
Bungalow with 2,3,4 rooms	179	11.53

Single Room	443	28.53
Tenement building (face me/face you)	706	45.46
Total	1553	100

**Table 2:** Occupancy Ratio

Ratio	Frequency	%
1	71	4.57
2	212	13.65
3	327	21.06
More than 4	943	60.72
	1553	100

The tables 1 and 2 above reveal the building type and occupancy ratio. Majority of houses are tenant buildings, popularly known as “face me and face you” having occupancy ratio of 4 and above. The study reveals that the average number of households per dwelling unit is high overcrowded and inadequate. The highest frequency of occupancy ratio is 60.72% from table 4.



**Figure 2:** Showing Building Type and Structure

*Source: Olasoji and Oladipupo, 2021*

**Table 3:** Summary of Extent of the spread of substandard houses and housing facilities in the slump area in Port-Harcourt

<b>The spread of substandard houses and housing facilities in the slump</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Decision</b>
Substandard houses and poor facilities	1149	73.99	Great extent
Substandard houses and good facilities	225	14.49	Low Extent
Standard houses and poor facilities	179	11.53	Very Low extent
<b>Total</b>	<b>1553</b>	<b>100.00</b>	<b>Total</b>

*Source: field survey, 2021*

Table 3 summarised the extent of the spread of substandard houses and housing facilities in the slump area in Port-Harcourt. From the table, 73.99% assented that the area is occupied with substandard houses and poor facilities. While, 14.49% said the extent of substandard houses and good facilities in the study area is low. Meanwhile, 11.53% agreed that the extent of standard houses and poor facilities is very low in the study area. From the result of the analysis, it could be deduced that substandard houses and poor housing facilities majorly dominate the slump area in Port-Harcourt.

### **3.2 Research Question Two:** What are the structural conditions of building in the study area?

#### **3.2.1 Structural Conditions of Building**

**Table 4:** Building Condition and Materials Used

A	Construction Materials for Wall	FREQ	%
	1. Concrete stone	-	-
	2. Concrete block	847	54.54
	3. Bricks	263	16.93
	4. Wood	443	23.53
	<b>Total</b>	<b>1553</b>	<b>100</b>
B	Roofing Materials		

	1.Metal sheet	841	54.15
	2.Aluminum sheet	398	25.63
	3.Asbestos sheet	225	14.49
	4.Canopy/nylon	89	5.73
	<b>Total</b>	<b>1553</b>	<b>100</b>
<b>C</b>	<b>Flooring Materials</b>		
	1.Mud finishing	45	2.89
	2.Tiles	398	25.63
	3.Concrete/cement	1110	71.48
	4.Wood	-	-
	5.Terrazzo	-	-
	<b>Total</b>	<b>1553</b>	<b>100</b>
<b>D</b>	<b>Windows/Doors</b>		
	1.Metal	<b>179</b>	<b>11.53</b>
	2.Glass	<b>443</b>	<b>28.53</b>
	3.Aluminum	<b>135</b>	<b>8.69</b>
	4.Wood	<b>196</b>	<b>51.25</b>
	<b>Total</b>	<b>1553</b>	<b>100</b>

Table 4 demonstrates that the majority of the houses are constructed improperly and using inferior materials, some in "permanent" structures and others in "make-do" ones. It serves as a simple refuge from the elements for urban poor people and a place to unwind after daily activities. Houses are packed together in an erratic layout, with a small passageway that is frequently covered with dirt. The surroundings are neglected and have few windows for cross-ventilation.

### 3.2.2 Housing Facilities

**Table 5:** Toilet Facility

<b>Types</b>	<b>Frequency</b>	<b>Percentage</b>
Pit latrine	321	20.67

Manual flush/closet	193	12.43
Bucket latrine	-	-
Bush/anywhere	642	41.34
Waterside	397	25.57

Table 5 shows that there are generally poor toilet facilities in the area. This is because higher number of the respondents make use of bush, water channel or anywhere. Thus, promoting degradation of the environment and encouraging poor sanitary conditions.



**Figure 3:** A Typical Toilet in the Study Area (Abonnema)

**Table 6:** Infrastructure Distribution

	Toilet		Bathroom		Kitchen	
	Freq	%	Freq	%	Freq	%
Private Infrastructures inside	308	19.83	398	25.62	661	42.56
Private Infrastructures outside	263	16.94	180	11.59	225	14.49
Shared Infrastructures inside	90	5.79	225	14.49	135	8.69

Shared Infrastructures outside	712	45.85	661	42.56	89	5.73
Located along corridors	-	-	-	-	443	28.53
At all	180	11.59	89	5.74	-	-

From table 6, the household facilities of most household are temporarily built. The facilities are shared by households, there are few areas where facilities are exclusive to any household.

Majority of the household do their cooking at the corridors and corners of their houses. Also, the facilities available were put in place by the efforts of tenants because there was no provision for such facilities. In addition, this reveals the level of unhealthy sanitary condition in the area.

### 3.2.3 Environmental Degradation

**Table: 7:** Methods of Waste Disposal

Methos of Waste Disposal	Total	%
<b>Central refuse dump</b>	327	21.1
<b>Pit</b>	56	3.60.14.00
<b>Burning</b>	213	14
<b>Dumping anywhere</b>	367	23.6
<b>Water channel</b>	590	38

*Source: Olasoji and Oladipupo, 2021*

Based on the data presented in Table 7, it is evident that a significant proportion of the respondents, specifically 38.00%, dispose of their waste by depositing it in water channels. Additionally, 23.60% admitted to using any available space as a means of waste disposal. This alarming trend of residents utilizing water channels and indiscriminately dumping waste poses a serious threat to the local area, leading to the accumulation of open heaps of waste and an increased risk of disease transmission. One of the consequences stemming from this behavior is the frequent blockage of water channels due to the improper disposal of waste. As a result, waste deposits are commonly

found along the shores of these channels, further exacerbating the issue. The littering of the environment not only diminishes its aesthetic value but also contributes to the degradation of the natural surroundings.

### 3.2.4 Testing of Hypothesis

Pearson product moment correlation was used to test the hypothesis at 5% significance level using the variables in Table 5 toilet facilities and method of waste disposal (Table 7)

$$r = \frac{N\Sigma xy - \Sigma x \Sigma y}{\sqrt{(N\Sigma x^2 - \Sigma (X)^2)(N \Sigma y^2 - \Sigma (y)^2)}}$$

Where,

r = correlation coefficient

N = sample size = 5

$\Sigma x$  = summation of all independent variable (toilet facilities)

$\Sigma y$  = summation of all dependent variables (method of waste disposal)

from table 8  $\Sigma x = 1553$ ,  $\Sigma y = 1553$ ,  $\Sigma xy = 585.619$ ,  $\Sigma x^2 = 710.063$ ,  $\Sigma y^2 = 638.223$

**Table 8:** A Contingency Table for Calculating the Product Moment Correlation Coefficient

X	Y	X <sup>2</sup>	Y <sup>2</sup>	XY
321	327	103.041	106.929	104.967
193	56	37.249	3.136	10.808
0	213	0	45.369	0
642	367	412.164	134.689	235.614
397	590	157.609	348.100	234.230
<b>1553</b>	<b>1553</b>	<b>7110.063</b>	<b>638.223</b>	<b>585.619</b>

Therefore,

$$r = \frac{(5(585619) - (1553)(1553))}{\sqrt{\{5(710063) - (1553)^2\}\{5(638223) - \Sigma(1553)^2\}}}$$

$$r = 0.548$$

To test for the significant of this correlation coefficient, using the student 't' distribution equation.

$$t = r \frac{\sqrt{(n-2)}}{\sqrt{1-r^2}} = 0.548 \frac{\sqrt{(5-2)}}{\sqrt{1-0.548^2}} = 1.1346$$

Since the calculated "t" value of 0.548 is less than the critical "t" statistic of 1.1346. we accept the Null hypothesis H0) that "there is statistically significant effect between slum housing facilities and environmental degradation in Port-Harcourt. Then, reject the alternate hypothesis (H1) which says that there is no statistically significant effect between slum housing facilities on environmental degradation in Port Harcourt

#### **4 Discussion of Finding**

The study revealed that the average number of households per dwelling unit is high overcrowded and inadequate. The result of the findings of research question one also found that, the spread of substandard houses and housing facilities in the slump area in Port-Harcourt is to a great extent. The implication is that substandard houses and poor housing facilities dominate the slump area in Port-Harcourt to a great extent. This in turn could pose the health and even the lives of people in the area to serious danger. This could be one of the reasons while good health and well-living has been stressed in one of the seventeenth Goals of sustainable development. The findings align with Ikebude's study conducted in 2017, which also concluded that waste generation is a daily occurrence. However, if appropriate measures are implemented and effectively managed, waste should not present any significant issues or difficulties for the government. Emphasizing the enforcement of proper waste management practices in the Port Harcourt Metropolis is crucial. It not only aids in controlling pests that pose health risks but also helps prevent environmental pollution, creates job opportunities, and enhances the city's aesthetic appeal. The current situation reflects a poor approach to solid waste management, leading to consequences ranging from the deterioration of the city's appearance to environmental pollution. Therefore, it was recommended to involve solid waste management professionals and sanitarians to address these challenges effectively. Also, the findings of Godwill, Owei and Brown (2021) revealed that the housing supply within the indigenous enclaves of the Diobu neighborhood exhibits a high occupancy rate. However, these houses suffer from inadequate provision of essential public utilities and services, as well as being constructed using substandard materials. As a consequence, residents frequently encounter flooding issues following rainfall.

Also, the result of the findings of research question two found that, the structural conditions of building in the slump area in Port-Harcourt were poor. This could be the reason why Nna and Felicia (2012) in their study said, the urban poor face significant challenges in accessing adequate housing, making it unlikely for them to afford purchasing homes even with government intervention in housing provision and delivery. As a result, they often find themselves confined to living in slums and squatter settlements within the city. In addition, Amah, Gobo and Ayotamuno (2022) indicated that the environmental quality of slum settlements in Port Harcourt is significantly impacted by several factors, namely the availability and condition of shared toilets, the effectiveness of drainage systems, methods for waste disposal and storage, as well as the presence and quality of kitchens. These factors have had a noticeable influence on the lifestyle of the residents residing in these areas. As a result, it is strongly advised that both stakeholders and residents take necessary actions to improve the water systems within the slum apartments, actively reduce environmental pollution that contributes to public health risks, and facilitate educational efforts by healthcare organizations to raise awareness among residents about the negative consequences of poor environmental conditions and the numerous benefits associated with a healthy environment.

The findings of this study shows that there is a significant relationship between slum housing and environmental degradation. This is because the Pearson product moment correlation calculated (1.1346) was lesser than the t table (1.86). we could therefore not reject the  $H_0$  hypothesis which stated that “there was a statistically significant relationship between slum housing facilities and environmental degradation in Port-Harcourt. Hence, most of the area require extensive urban renewal programmes, which will improve the environment in which the houses are situated. The study of Daniel, Wapwera, Akande, Musa, and Aliyu (2015) confirms While urbanisation in Lagos and Port Harcourt was linked to industrialisation, which was not the case in Abuja and Jos. Nonetheless, the growing population, severe shortage of suitable housing for low-income and impoverished households and inadequate framework in place to effectively manage urban growth and expansion were common to the slum development process in all four cities.

## Summary

The study reveals that most house walls were built with wood, and very few concrete blocks, and bricks. Also, roofing materials were made of metal sheet (zinc) aluminum sheets and asbestos. The flooring materials include mud-finishing, tiles, concrete cement, and so on. Also, there is a rapid growth and spread of substandard structures littering the crooks and crannies of the metropolis, the quest for shelter from weather elements and shortage of housing facilities and high cost for rent. This is the result of inadequate planning and neglect of rapid urbanization in the cities.

It discusses the need for a sustainable housing scheme and strategies to achieve housing scheme and strategies to achieve this in order to find a lasting solution to slums' spreads in the city. To achieve this, policies with clear guidelines, direction and milestones towards sustainable rural infrastructure development should be put in place. Past programmes of successive governments have not been fully implemented due to instability of government, corruption and lack of continuity in previous programmes.

In conclusion, it was gathered that most household infrastructures were not available and where available, they were shared among groups of households. Also, cooking was done along corridors. Sanitary conditions were generally poor. The area was also notable for several social vices like prostitution, armed robbery, smoking joints and militant hideouts especially in places nearer to the waterfront.

## 5 Conclusion and Recommendations

From the study, it was discovered that several possible solutions that could be implemented to address the challenges of inadequate housing in Port Harcourt's slum areas exist. These include:

**Increasing investment in affordable housing:** The government or private sector could invest in building more affordable housing units. This would help to increase the supply of affordable housing options and decrease the cost of rent in the slum areas.

**Implementing zoning and land use regulations:** By creating regulations that specify how land can be used, it may be possible to encourage more sustainable development in the slum areas. For example, zoning regulations could be used to designate certain areas for housing, while other areas could be reserved for commercial or industrial use.

**Promoting sustainable construction practices:** Building sustainable housing units could help to reduce the environmental impact of rapid urbanization and ensure that the housing units are more resilient to extreme weather events. This could include the use of energy-efficient materials and technologies, such as solar panels and rainwater harvesting systems.

**Providing access to basic infrastructure:** Lack of access to basic infrastructure such as electricity, clean water, and sanitation can be a major barrier to improving living conditions in the slum areas. Providing these services could help to improve the overall quality of life for residents.

**Supporting community-led development initiatives:** Working with local organizations and community groups can help to ensure that the housing solutions that are implemented are responsive to the needs and priorities of the community. This could include providing funding or technical assistance to support community-led housing projects.

Finally, the study concludes that provision of soft affordable loan or housing estate for the urban poor, if well implemented will help in solving the urban housing problems and slum in Port Harcourt and even Nigeria cities. However, this is the least that could be done to change the face of housing problem and slums development in Port-Harcourt and perhaps in Nigeria as a whole.

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