Predominant Dwellings and Their Neighbourhood Environment Qualities in Port Harcourt Metropolis, Nigeria: An Implication for Planning

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Abstract:-This study assessed the types and quality of dwelling units and the quality of their neighbourhood environments in Port Harcourt Metropolis, Nigeria. The study population was derived by simple random sampling and the data were obtained with the aid of a questionnaire. A total of 920 copies of questionnaire were administered but 891 copies of the questionnaire were returned for further analysis. The findings reveal that overcrowding, poor quality housing, lack of internal facilities and neighbourhood amenities were major problems that demeaned dwelling quality in Port Harcourt. Also,tenement/rooming houses are the predominant type of dwelling units in the city. The correlation between income and type of house lived was positive and significant (r=0.804; p=0.0001) while on the relationship between income and satisfaction with the quality of dwellings, the correlation was also positive and significant (r=0.656; p=0.0002). Significant variation existed in the quality of dwelling units among residential neighbourhoods (X^2 = 159.63; p=0.001).However, the study recommended that the socio-economic and industrial activities should be decentralized to control the urban population increase through rural-urban migration. Also, government should ensure that its agencies monitor all approved plans to guarantee compliance with standards.

Keywords:-Dwelling units, Housing quality, Neighbourhood, Environment, Port Harcourt Metropolis

1. INTRODUCTION

Developing countries are experiencing a rapid rate of urban growth. This is manifested more in Africa where cities are currently undergoing an urban transition at an unprecedented scale and pace; with an estimated population growth rate of 5% per year, the proportion of African's urban residents double every 15 years (United Nations, 2002), while it is estimated that by the year 2020 the urban population would reach 68% (Opuenebo, 2007). The Universal Declaration of Human Rights enshrined in Article 25 of the UN General Assembly in 1948 affirms the right to adequate housing as a vital part of human rights (Habitat for Humanity, 2014). Subsequently, section 16(1) (d) of the 1999 Constitution of the Federal Republic of Nigeria puts the government under responsibility "to provide suitable and adequate shelter for all citizens". Unfortunately, greater population of this country has not enjoyed this right by any exercise and this is evident in the poor conditions of housing for greater number of urban dwellers which according to Ogunleye (2013) are clearly an affront to human dignity. Consequently, the incidence of this population in urban centers has created severe housing problems, resulting in overcrowding and inadequate dwellings (FGN, 2006, 2012). This coincides with an early report of the World Bank and United Nations Centre for Human Settlement that not less than one billion people in less developed countries (LDCs) live in houses unfit for human habitation and it is anticipated that this number will increase rapidly unless deliberate measures are taken (World Bank/UNCHS, 1990). Waziri and Roosli (2013) noted that dearth of adequate housing virtually abounds in developing and third world countries, though the shortage is in both quantitative and qualitative terms, which is more acute in urban centres. However, it was reported that 87% of the current supply of housing are backlogs and do not meet the minimum quality in terms of design, functionality and acceptability (Jibrin, 2009 in Kabir and Bustani, 2012). Not surprisingOmojimi (2000) notedthat people that sleep in indecent houses in the Nigerian urban cities outnumbers people who sleep in decent houses.

Conceivably, a major trait of housingcrisis notable in urban centres in most developing nations is that of inadequate supply relative to demand (Olotuah, 2000; Arayela, 2003), while affordability remains an insurmountable challenge (Ogu and Ogbuozobe, 2001 in Adejumo, 2008) despite a number of new policies, programs and strategies being engaged in by public and private sectors in addressing this problem (Ibem et al., 2011). Numerous studies on the adequacy and quality of dwellings both in Nigeria and beyond are evident (Ebong, 1983; Bryne et al., 1986; Olotuah, 2000; Ogonor, 2002; Coker et al., 2007, Nubi, 2008; Wokekoro and Owei, 2014). Coker et al. (2007) investigated the challenges of urban housing quality in relation to their

neighbourhood environments in Ibadan City and found that in both high, medium and low density areas most houses in the city of Ibadan are classified as unfit for human habitation, overcrowded, generally lack basic facilities and lacked in good maintenance culture. This they noted is a major cause of the decline in housing quality. Similarly, studies by Ogonor (2002) and Wokekoro and Owei (2014) assessed housing problems and planning implications, and residential quality of life in Port Harcourt metropolis respectively, as measures of evaluating qualitative dwellings and reported that dwellings lack basic housing amenities with most of their components worn and torn, while drainages are blocked and waste disposed improperly. Ogonor (2002) also reported absence of cross ventilation; and that gutters that provide drainage are being filled up, especially with various forms of waste matter; which makes the blocked drains incubators for mosquitoes and subsequently affect the health of residents (Wokekoro and Owei, 2014).

However, all these studies revealed that income is a major determinant of housing choice. While, this may stand in its own right, other variables such as cultural orientation, indigenous factors, heritage, nearness to work and high profit business sites are also indomitable factors that influence dwellers choice of dwellings. There is also dearth of information about room size/dimension that would accentuate the recommended occupancy ratio of two persons per room. Again, inadequate attention is being given to the types of houses lived in especially in Port Harcourt Metropolis. It is against these backdrops that this study assessed the degree of variation in types and quality of dwelling units and their neighbourhoods environmental conditions in Port Harcourt Metropolis, Rivers State, Nigeria.

II. METHODOLOGY

The descriptive survey design was adopted for this study. The data for this study were obtained from primary and secondary sources. The primary sources of data emanated from direct observations, questionnaire instrument and field works. The secondary data were obtained from existing literature and institutional publications such as those of the National Population Commission (1991, 1996, 2006 and 2012). Accordingly, the reliability of the instrument was established by the use of test-retest technique and yielded a coefficient value of 0.99 after correlating the scores with Pearson Product Moment Correlation Coefficient. The target population of this study comprised the residential neighbourhoods in Port Harcourt metropolis which comprised of Port Harcourt City Local Government Area (PHALGA) and Obio/AkporLocalGovernment Area(OBALGA). PHALGA consists of 25 communities while OBALGA consists of 89 communities making a total of 114 communities (National Population Commission, 1991, 1996, 2006 and 2012; Rivers State Central Statistical Agency (RSCSA), 2003). Out of these, 10% of each of the sample frame (that is 3 communities from PHALGA and 8 from Obio/Akpor) was selected as the sample via the simple random sampling technique using lottery method, which gave a total of eleven (11) communities used for the study. The study locations included Nkpolu/Oroworukwo (parts of mile 3 Diobu) (C1), Elelenwo (C2), Orije (Old GRA) (C3), Rumuepirikom (C4), Choba (C5), Rukpokwu (C6), Orominike (D-Line) (C7), Eliozu (C8), Rukpakwolusi (C9), Agip Estate (C10) and Iwofe (C11). The total projected population for the 11 communities selected was 218,956 which consisted of 36,494 households. These were finally reduced to achieve the actual sample size by applying the Taro Yamane (1967) formula to the household population of each of the communities which yielded a total of 920 copies of questionnairewhichwere administered in proportion to the population of each community whereby only 891 copies of the questionnaire were returned and used for the analysis.Descriptive and inferential statistics were used for the analysis. Pearson's Product Moment Correlation statistics was used to determine the significant relationship between income and choice of dwelling units while analysis of variance was used to determine the spatial variation in the quality of dwelling units among residential neighbourhoods. Statistical Package for the Social Sciences (SPSS) 20.0 Version was used for the analysis.

III. RESULTS AND DISCUSSION

Predominant types of dwelling units in Port Harcourt

The result in Table 1 reveal that 26% of the entire population representing majority lives in tenement/rooming houses; 25% live in detached bungalows; 23% live in semi-detached bungalows while 11% live in duplexes. 9% live in blocks of flats and 6% live in batchers and other makeshift or squalid settlements. Hence, tenement/rooming houses are the prevalent type of house in Port Harcourt metropolis and they are predominantly found in Nkpolu/Oroworukwo, Elelenwo, Rumuepirikom, Choba, Rukpoku, Eliozu and Rukpakwolusi axes. A reason for this may be the fact that these are indigenous enclaves/settlements in addition to being densely populated, hosts the lower class and the houses cheaper to afford. Also, Nkpolu has the highest number of shanties.

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Community	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	Frequency	%
Responses													
Detached	50	4	21	34	30	12	56	4	2	3	6	222	25
Bungalow													
Semi-Detached	56	10	17	17	30	7	60	3	2	0	2	204	23
Bungalow													
Tenement/	62	17	17	23	39	18	44	6	4	3	1	234	26
Rooming													
House													
Blocks of Flat	20	5	10	10	14	4	10	3	0	1	0	77	9
Duplex	39	7	19	12	4	2	13	2	0	1	0	99	11
Shanty/Batcher	27	5	2	2	9	2	6	0	1	0	1	55	6
TOTAL	254	48	86	98	126	45	189	18	9	8	10	891	100

Table 1: Predominant Types	of Dwelling Units	Lived in Port Harcourt
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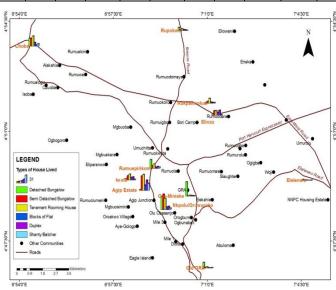


Figure1: Types of houses lived in Port Harcourt Metropolis

Internal Facilities in the houses lived

It is indicated in the analysis in Table 2 that only 38% of the entire population has access to electricity implying that a larger proportion of the entire sampled households representing 62% lack electricity supply in their homes; while only 14% of them have water supply indicating that majority covering 86% do not have water supply; and only 30% have parking lots implying that majority constituting 70% lack parking spaces. The result also indicates that 26% do not have toilets; 25% do not have kitchen and 28% lack bathroom. Some of these are similar to the findings of Toyobo et al. (2011) and Wokekoro and Owei (2014). This lack of electricity supply has aided the patronage of power generating sets locally called "I Pass My Neighbour" which in turn proves to be a major source of noise and air pollution. The non-availability of parking lots in the houses is responsible for the indiscriminate and notorious parking of vehicles along the streets of the city.

		Tat	SIe 2:	Interi	iai fa	cintie	s in the	e Hou	ses n	vea			
Community	C1	C2	C3	C4	C5	C6	C7	C8	C8	C10	C11	Total	%
Responses												freq	
Electricity	62	18	50	49	40	25	67	8	5	7	10	341	38
Toilet	205	32	84	61	85	31	133	12	4	7	8	662	74
Kitchen	218	30	84	63	90	38	115	13	6	6	9	672	75
Bathroom	209	31	84	61	83	33	109	12	6	6	9	643	72
Pipe Borne	20	2	25	7	11	4	47	0	2	5	3	126	14
Water													
Parking Lot	35	6	82	42	23	12	54	4	2	4	2	266	30

Table 2: Internal Facilities in the Houses lived

Facilities in Toilet/Bathroom

The analysis in Table 3 reveal that 507 respondents out of the 891 which nstitutes 57% have water closets (WCs)

in their toilets; 143 of them representing 16% have water heater in the bathrooms; 311 covering 35% have washing basins; 365 of them which is equivalent to 41% have shower; 166 of them representing 19% have bath tub; and 101 respondents constituting 11% have none of the above facilities.

Community	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	Total	%
Responses												freq	
Water Closet	120	28	74	50	62	14	131	10	6	4	8	507	57
Heater	41	3	38	5	11	6	14	2	1	4	4	143	16
Washing	96	17	69	28	21	16	46	3	4	4	7	311	35
Basin													
Shower	101	19	78	43	53	27	14	14	5	4	7	365	41
Bath Tub	48	4	57	11	14	3	15	2	2	4	6	166	19
None	25	7	0	8	28	11	18	1	1	1	1	101	11

Table 3: Facilities in Toilet/Bathroom

Household Size

Table 4 reveals that household population of 4-6 persons has highest score of 41% while those of 1-3 persons scored 36%. Households whose populations are 7-9 persons constituted 16% and those that are 10 persons and above 7%.

Community	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	Total	%
Responses												freq	
1-3 persons	95	8	26	39	45	17	82	4	2	3	1	322	36.14
4-6 persons	92	25	42	50	32	23	80	11	6	4	5	370	41.53
7-9 persons	43	9	15	5	35	4	20	3	1	1	3	139	15.60
10 & above	24	6	3	4	14	1	7	0	0	0	1	60	6.73
TOTAL	254	48	86	98	126	45	189	18	9	8	10	891	100

Table 4: Household Size

Number of rooms/units occupied by households

From table 5 it is shown that respondents who occupy one room and two rooms units represented 30% respectively. Those who occupy three rooms 22%, four rooms scored a total 11% and those occupying five rooms and above represented 7%. If the prevalent household sizes in table 4 are matched with the prevalent number of rooms occupied in table 5, it implies overcrowding in the dwellings. The implication of overcrowded households is that there will be not enough space for the household members' comfort plus overbearing on the internal housing facilities, which in turn leads to unprecedented wear and tear of the facilities. Overcrowding sharply negate the recommended standard of 2 persons per room. While these recommended standards are commendable and corroborated, it is salient to opine that occupancy ratio should be subject to and hugely reliant on the size of the room. Thus, to determine how many persons to live in a room, recourse must be given to the dimension or size of the room. This is because a room of small dimension will definitely undermine the recommendation of 2 persons per room and will be a potential source of discomfort to its inhabitants be it a single occupant. Although, Emenike (1999) in an earlier study noted that caution should be exercised when considering the issue of overcrowding since an average Nigerian views accommodating relatives as more of hospitality than inconvenience. But this in our opinion is an "ethno-psycho orientation" which may not represent the true feelings of the situation, as we observed in this study that socio-economic factors such as desire for nearness to urban choices and opportunities, poverty, unemployment and the high cost of qualitative housing are driving forces of overcrowding in these circumstances.

Table 5:Number of Rooms/Units Occupied by Households

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Community	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	Total	%
Responses												freq	
One Room	67	20	24	32	33	22	56	4	3	1	4	266	30

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Two Rooms	65	17	21	30	36	10	70	8	5	2	2	266	30
Three Rooms	56	8	27	13	34	7	38	4	1	2	3	193	22
Four Rooms	41	3	7	14	17	6	12	2	0	0	0	102	11
Five & Above	25	0	7	9	6	0	13	0	0	3	1	64	7
TOTAL	254	48	86	98	126	45	189	18	9	8	10	891	100

External amenities provided in the housing neighbourhoods

Table 6 shows that a smaller proportion of the total number of respondents representing 39% of the population has street lights in their neighbourhoods; also, greater number of respondents which constitutes 54% of the population held that their neighbourhood roads are not tarred, 46% indicate that theirs are paved/tarred; majority of the respondents representing 74% of the population do not have access to public water supply, while 24% have access to public water supply; majority of the population representing 49.38% do not have drainages in their housing neighbourhoods, while 48.26% have drainages in their environment; only 38.7% of the population are provided with waste disposal units; 14.6% have access to recreation facilities; 26% have access to health care facilities; 37.3% have access to police station; 45% have shopping facilities; only 4.5% have all of the neighbourhood facilities; while 8% held that none of the neighbourhood amenities exist in their housing environment.

Community	CI	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	Total	%
Responses												Freq	
Street lights	124	0	53	26	58	5	70	3	5	2	3	349	39
Paved/tarred	109	2	70	29	44	22	124	3	3	2	4	412	46
roads													
Public water	64	0	32	41	33	7	36	1	1	0	0	215	24
Drainage	118	0	65	50	45	16	117	2	4	8	5	430	48.26
Waste	109	0	55	26	37	12	102	0	1	2	1	345	38.7
disposal													
units													
Recreation	24	0	45	20	18	2	21	0	0	0	0	130	14.6
facilities													
Health care	35	1	46	36	34	14	59	1	1	3	2	232	26
facilities													
Police	107	2	56	48	45	12	53	3	1	1	4	332	37.3
Station													
Shopping	182	8	21	39	61	26	58	1	1	2	2	401	45
Facilities													
All of the	12	0	20	7	1	0	0	0	0	0	0	40	4.5
above													
None of the	12	43	0	6	4	0	0	0	0	0	0	68	8
above													

Table 6: External amenities provided in the housing neighbourhoods

Factors influencing the choice of dwelling units and neighbourhoods

Table 7 reveal that majority of the dwellers covering 40% chose to live in their present dwellings and neighbourhoods because of their income status and affordability capacity; 23% do so because the dwellings and neighbourhoods are their homes of origin; 12% expressed that their preference for their present dwellings is because of nearness to their work/businesses; 5% held that it is because they found the dwellings conducive; 6% held that there reason is due to availability of amenities; while 4.7% gave free rental as their reason. Another 5% held that it is because of easy accessibility and 4% due to security concern.

Tab	le 7: D)etern	ninant	s of cl	noice c	of dwe	lling u	inits a	nd Ne	eighbou	irhoods	5

Community	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	Total	%
Responses												freq	
Home of	58	12	3	31	35	20	33	6	5	1	4	208	23
Origin													

Income/Rental Affordability	118	20	23	37	49	16	74	10	3	4	4	358	40
Nearness to work/Business	28	9	7	10	16	6	27	2	1	2	2	110	12
Free Rental	10	5	3	6	7	3	8	0	0	0	0	42	5
Conducive Place	8	0	19	0	3	0	18	0	0	0	0	48	5
Availability of Amenities	12	2	13	4	8	0	11	0	0	0	0	50	6
Accessibility	10	0	10	4	5	0	15	0	0	0	0	44	5
Security	10	0	8	6	3	0	3	0	0	1	0	31	4
Total	254	48	86	98	126	45	189	18	9	8	10	891	100

Dwellers Perception on satisfaction with their present dwelling units and rating of the quality of dwelling and neighbourhoods

Table 8 reveal that greater proportion of the population representing 55% is not satisfied with their dwellings while 45% expressed satisfaction with their dwellings. The second part of the tablealsoreveals that the majority of the population representing 33.9% rated the quality of their dwellings and neighbourhood environment as poor, 31.8% rated theirs as average; 18.7% rated theirs as good; 7.9% rated theirs as very good and 7.7% indicated that theirs is very poor. Significant variation existed in the quality of dwelling units among residential neighbourhoods (X^2 = 159.63; p=0.001) (Table 9).

Table 8:Dwellers Perception on satisfaction with their present dwelling units and rating of the quality of dwelling and neighbourhoods

Community	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	Total	%
Responses												freq	, -
Yes	120	19	59	38	60	15	75	4	4	4	4	402	45
No	134	29	27	60	66	30	114	14	5	4	6	489	55
Total	254	48	86	98	126	45	189	18	9	8	10	891	100
Rating of the quality of dwellings	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	Total freq	%
Very Poor	35	9	0	0	5	1	18	0	1	0	0	69	7.7
Poor	92	24	8	44	50	11	58	8	0	1	6	302	33.9
Average	70	12	25	28	34	21	68	8	7	6	4	283	31.8
Good	38	3	40	13	29	10	30	2	1	1	0	167	18.7
Very Good	19	0	13	13	8	2	15	0	0	0	0	70	7.9
TOTAL	254	48	86	98	126	45	189	18	9	8	10	891	100

Table 9: Chi square analysis	Table 9:	Chi	square	analysis
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	Value	df	Asymp. Sig. (2-
			sided)
Pearson Chi-Square	159.627	40	0.001
Likelihood Ratio	177.319	40	0.001
Linear-by-Linear Association	1.606	1	0.205
N of Valid Cases	778		

Income per annum of respondents

Table 10 shows that income of N216,000 and below per annum are greater in number representing 46%. Those who earn N217,000-N400,000 represent 12%, N601,000-N800,000 constitute 11% while N401,000 to N600,000 and N801,000-N1,000,000 represent 10% each. N1,000,000 and above earners represent 6%. 3% do not earn income and 4% did not disclose their income.

Table 10: Income per Annum (N)													
Community	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	Total	%
Responses												freq	
216, 000 and	119	22	14	52	88	4	100	2	2	1	3	407	45.7
below													
217, 000-400,	27	0	8	8	24	3	29	5	1	1	0	106	11.9
000													
401, 000-600,	24	8	3	7	7	2	28	4	3	1	0	87	9.8
000													
601, 000-800,	20	10	22	8	6	6	16	3	0	2	2	95	10.7
000													
801, 000-	14	5	24	12	1	16	7	2	1	1	2	85	9.5
1,000,000													
1,000,000 &	9	3	15	3	0	6	9	2	1	2	3	53	5.9
above													
None	16	0	0	8	0	0	0	0	1	0	0	25	2.8
No Response	25	0	0	0	0	8	0	0	0	0	0	33	3.7
TOTAL	254	48	86	98	126	45	189	18	9	8	10	891	100

Table	10·	Income	per Ann	um (N)
rabic	10.	meome	per Ann	um (++)

Relationship between income per annum of dwellers and type of house lived and satisfaction of dwelling units

The relationship between the income of Port Harcourt dwellers and choice of dwelling unit is shown in Table 11. The correlation between income and type of house lived was positive and significant (r=0.804; p=0.0001). Considering the relationship between income and satisfaction with the quality of dwellings, the correlation was also positive and significant (r=0.656; p=0.0002). So we conclude that there is significant relationship between income and satisfaction with the quality of dwelling.

Table 11: Relationship between income and type of house being lived and satisfaction with the quality of

dwelling

	Income per annum						
	Correlation	r square	Coefficient	p value			
	(r)		of				
			determination				
Type of house	0.804^{**}	0.6464	64.6%	0.0001			
being lived							
Satisfaction	0.656^{**}	0.4303	43.0%	0.0002			
with the							
quality of							
dwelling							

**. Correlation is significant at the 0.01 level (2-tailed).

IV. CONCLUSION AND RECOMMENDATIONS

Generally, the result of the study show that major housing and environmental problems in Port Harcourt metropolis include shortage of decent dwellings, high cost of housing, overcrowding, lack of pipe borne (portable) water, poor waste disposal and management, high noise level, blocked drainages, lack or epileptic power supply, poor road condition. These findings are similar to those of Ogonor (2002), Wokekoro (2005) and Wokekoro and Owei (2014). Majority of the population that aspire and/or wish to relocate from their current dwellings notwithstanding the kind of tenure they enjoy in the dwellings would do so because they desire better dwelling implying that they are dissatisfied with their dwellings. The mixed uses to which residential buildings are put especially the commercial and quasi-industrial uses within same residential dwellings are a major source of discomfort to dwellers. Notable among these is the high and unbearable noise generated by power plants and other process machines. Many dwellers live in their present residents for reasons other than income status.Based on the findings of the study, it is recommended that holistic review of existing housing policies must be done in order to address the present realities and make candid foreordainment for the future in terms of housing adequacy, functionality, standard and quality and must as such consider them the core. The socio-economic and industrial activities should be decentralized to control the urban population increase through rural-urban migration. Government should ensure that its agencies monitor all approved plans

to guarantee compliance with standards. Finally, required authorities should carryout routine inspection on residential houses to ensure compliance to standards.

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