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Intra-Urban Analysis of the State of Residential Housing in Lokoja, Nigeria

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ABSTRACT

The study is an intra-urban analysis of state of housing with a focus on degeneration and quality in selected Residential densities in Lokoja, Nigeria. Purposive sampling technique was first adopted to select two quarters each in the high (Adankolo and Lokongoma) and low (Sarki-noma and Zone 8) densities residential areas in Lokoja. Systematic method was adopted to select 400 household heads for questionnaire administration. Primary data were collected and analyzed using descriptive and inferential statistics. A 3-points Likert scale was used to classify responses which were further subjected to students' T-test to compare housing quality and housing degeneration among the High and Low Density Residential areas. The findings showed that prominent housing degeneration observable in the study area were felt in terms of the conditions of housing facilities and were accepted because their Mean Weighted Value (MWV) were more than the Grand Mean Weighted Value (GMWV) of 2.16 for high residential areas and 2.35 for low residential areas. At $p=0.05$ and $df=18$, the Calculated t-Value = 6.154 while the Tabulated t-Value is 1.725. Since the Calculated t-Value 6.154 is greater than the Tabulated t-Value = 1.725, H_0 is rejected. That is, there is significant difference in housing degeneration between High Density Residential area (Adankolo and Lokongoma) and Low Density Residential area (Sarki-Noma and Zone 8) in the study area. Based on respondents' perception which were retrieved from information of questionnaires administered to respondents. The result showed they have problem of poor drainage system and poor waste disposal facility which has pollution effect on the environment and health of residents in the study area. It could be concluded based on findings in the study that the level of housing degeneration in the study area is more prominent in high residential district than in low residential district. Recommendations made was that more priority should be given to housing improvement in the high density zone than the low density zone.

1. INTRODUCTION

Housing is defined as buildings or shelters in which people live, a dwelling and to a Nation's critical component in social and economic strata (Kabir and Bustani, 2010). Housing is a fundamental necessity, is essential to the growth of any nation (Ishola, Gokay and Huda, 2023). In addition, housing is an integral part of a set of social conditions that determine the quality of life and welfare of urban residents (UN-Habitat, 2012). Aribigbola (2011) opined that housing is very fundamental to the welfare, survival and health of individuals. Housing is also ascertained to be regular and continuous maintenance of the built environment for the daily living activities of individuals/families within the community while reflecting their socio-economic, cultural aspirations and preferences (National Housing Policy, 2012).

Consequently, urban population is anticipated to grow on an average 2.3 percent per year in the developing world between 2000 and 2030

(Jiboye, 2011). The United Nations (2013) defines urbanization as movement of people from rural to urban areas with population growth equating to urban migration which is indeed a phenomenon that removes the rural character of a town or an area. It is estimated that in 2011, the world population stood close to 7 billion persons, with 50% living in urban centres (UN, 2011). Currently, more than 40% of Africa's population is urban and it is projected that this proportion will increase to 60% (1.23 billion) by 2050 (UN-Habitat, 2010).

This implies that rapid urbanization is a distinguishing characteristics of contemporary Africa and it is greatly spurred by rural-urban migration. In addition, there has been a growing concern on the deteriorating state of housing in most urban areas of the developing nations as observed by Jiboye (2010). Hence, good quality housing is essential to planning because it does not only ensure the safety and dwelling of people, but promotes beauty, convenience and aesthetics in the overall built-up environment (Jiboye, 2010).

Housing quality is defined as structural attributes and facilities provided for the inhabitants of a building to live a decent life (Bradley and Putnick, 2012). Good quality housing is the desire of all, however, good quality housing is not easy to come by; it involves the provision of adequate funding (Foluso, Albert, Muiyiwa, Francis, Sunday and Folahan, 2023)

The quality of a housing unit is dependent on the structure, the various components, facilities within, and the aesthetical rendering of the unit (Agabi and Odekunle, 2014). Moreover, quality housing is the goal of all localities and this reflects a community's ability to respond to the needs of its citizens, as well as to accommodate growth and economic development. Addo (2013) observed that, the areas that are overcrowded are characterized by poor infrastructural facilities, poor building quality and insufficient environmental facilities. In effect to this, built-up structures degenerate in quality with age / obsolescence, high rate of negligence and consequent deterioration of housing have resulted to poor housing quality in many public estates in Nigeria. This situation contradicts the objectives of Nigerian National Housing Policy (NHP, 2006) of whose goal is sustainable and appropriate urban renewal programmes in blighted areas.

Funmilayo and Michael (2018) described housing quality indices as the structural or dwelling quality, neighbourhood quality, and locational quality. While, Foluso and Afolabi (2017) described the quality of housing as an important health element which affects the well-being of the people, their productivity, manner of living, decencies of their lives and provides the foundation for stable communities and social inclusion. Ibem and Amole (2010) stated that inadequate housing condition has become an intractable challenge that has continued to grab the attention of governments, professionals, developers and individuals in most developing countries. Hence, the quality of housing is basically an important health element which affects the well-being of the people, their productivity, manner of living, decencies of their lives and provides the foundation for stable communities and social inclusion (Foluso and Afolabi, 2017).

Lokoja is the capital city of Kogi State and has been experiencing continuous increase in population. Record has shown that, Lokoja as a state capital has a population of 75,000 people in 1991, 102,000 in 1995, 149,000 in the year 2000, 237,000 in 2006, and 348,000 in the year 2011. It was estimated that the population of the city as a state capital will increase to 886,000 by the year 2025 (population statistic, 2024). This may have negative effect on the quality of life that urban people experience in Lokoja. It is to this end that this paper made an intra-urban analysis of housing with a focus on its quality and housing degeneration in the high and Low Density Residential quarters in Lokoja, Nigeria.

1. LITERATURE REVIEW

Quality of Housing

Quality of Housing standards are often used as norms or measures that are applicable in legal cases where there is some question as to the acceptability of construction relative to prevailing laws or conventions that operate within the

residential building industry (Emankhu and Ubangari, 2015). The concept of housing quality is broad and comprises both the physical characteristics and satisfaction (Streimikiene, 2015). Quality of housing is determined by the residents' perception as identified by Adeleye, Azeez and Yusuff (2014). Hataminejad, Yazdi and Hosseinejad (2014) described settlement informality as obvious facets of urban destitution in most of in-migration and vulnerable cities. Magigi and Majani (2006) revealed that, unplanned housing development areas represent a key development challenge for urban planners and professionals in the built environment. Housing quality depends on indicators as yardstick for measuring housing performance. The quality of housing within any neighbourhood should be such that satisfies minimum health standards and good living standard, but should also be affordable to all categories of households (Aribigbola, 2011; Amao, 2012).

Housing Quality Degeneration in Nigeria.

In the developing world, like in Nigeria, rapid urbanization has outpaced the ability of governments to provide adequate shelter and basic amenities for the urban poor resulting in grievous urban poverty (Lewin, 1981). The high level of poverty of most urban households places the available housing stock out of their economic reach. Many of the households resort to constructing make shift dwellings with all sorts of refuse materials on illegally occupied land (Makinwa, 1988).

Adetunji and Isah (2015) researched on urban housing quality and its health implications in Lokoja. Their findings revealed that more than sixty percent (%) of the inhabitants of city live in undignified houses. A large proportion of the population do not have reasonable access to safe and ample water supply, neither do they have the means for hygienic waste and sewage disposal. The demand for urban services in Nigeria has grown over the years but the overall quality and coverage of public services have deteriorated (Olotuah 2002).

There have been studies on housing in Nigeria by different authors. However, findings differed widely. Many studies have tried to quantify the level of degradation of urban housing in Nigeria (Jelili, Adedibu, and Ayinla, 2006; Olotuah, 2006; Yoade, 2012; Abiodun, 2015; Anofojie and Adeleye, 2014; Adeleye, Azeez, and Yusuff, 2014; Adewale, Olabisi and Babawale, 2015; Foluso and Afolabi, 2017). These studies affirm that 75% of the dwelling units in urban centers in Nigeria are substandard and the dwellings are sited in slums. The inadequacy of the quality of most of urban housing stems mainly from the poor physical state of the buildings. The studies further show that the buildings are often unsafe and insecure and do not provide adequate shelter from the elements of weather.

Anofojie and Adeleye (2014) examined the quality of housing in Amuwo-Odofin in Lagos State and their study focused on housing and infrastructure. The Results of their study revealed that majority of the houses and infrastructure were in poor condition. Also, Abiodun (2015) carried out a research on the impact of users' needs on housing quality in Ado-Ekiti and discovered that public services and infrastructure are inadequate in the housing estates. But as substantial as these works are, these studies did not fully explore the evaluation of

but, the land slopes most from the mountain area towards the River Niger. The most striking relief feature is the Mount Patti with an altitude of about 1,500m above sea level. A number of intermittent valleys exist, most with streams that flow to crisscross the town. The basement complex rock consists of fine to medium –grained sand stones, clays, carbonaceous silts and colitic ironstones. Lokoja sandstone is generally pebbly and clay with a maximum thickness of 270meters (Alaci, 2004).

Climate

The climate of the study area falls into the Koppen-Aw climatic group that is, the warm continental type. Rainfall starts in earnest in the month of March/April and it extends to October/November. September is the month of heaviest rainfall, while August break is not particularly marked. (Alaci, 2004). June and November are particularly cooler months, while February and March are the hottest months. The highest temperature of 36.7°C occurs in March, Ifatimehin (2014).

Economic Activities

Lokoja has an education function, because of the presence of the university and other secondary and primary schools, the presence of a university is rapidly initiating and transforming the land use type and economy from agrarian to a commerce driven economy and also function as nodal town that provides quick access from some part of the states to other part of the country. The major economic activity of Lokoja is trading and this has survived largely due to increasing population of the area which provides market for various items brought in from other parts of the country. Cotton ginning, weaving, palm and shea kernel processing are important local activities available. The establishment of the University in Lokoja has contributed immensely to the success of hotels, commercial banks and housing business, as a result, the establishment of the university has attracted people from both far and near to trade in various businesses which witnessing tremendous growth and development. Lokoja generally can be described as a break of bulk point of business. There are limestones and iron deposits in the vicinity and nearby Mount Patti. Hence, industrial production take place in Lokoja.

Settlement and Its People

The original settlers in Lokoja were the Bassa-Nges and Oworos and other indigenous tribes are Kakanda, Kupa, Ganagana and Egan as well as the Ebira, Igala and Hausa. The nature of the land use is presently segregated mainly into

residential and administrative uses. The old township made up of Kabawa, Karaworo/Cantonment, Kpata/Marine and Adankolo are predominantly residential. The new outlier or expansion areas are Lokongoma, Gaduma, Ganaja, Felele and Otokiti.

3. RESEARCH METHOD

Quantitative Cross Sectional Research Design was adopted for this research. Primary data for this study was obtained through the use of reconnaissance housing survey and copies of structured questionnaire designed for this study. The structured questionnaire used was adapted from the work of Adeleye, Azeez and Yusuff (2014) and was up graded by reviewing Emankhu and Ubangari (2015); Muhammad (2015); Adeleye, Azeez and Yusuff (2014); Lanrewaju (2012) and Jiboye (2010) works. The questionnaire consists of two sections A and B made of closed-ended questions on housing quality and assessment of housing degeneration among the High and Low Density Residential areas respectively. The secondary data used for this study included map of Nigeria showing Kogi State and this was adapted from Kogi State Ministry of Land and Environment (2008) and the map of Kogi State showing the study area as adapted from Okoli and Achegbulu (2013) work. These maps were used to locate and identify the study area. Population figures are from population statistic (2024).

Sampling Frame

During the reconnaissance housing survey of the study area, 822 buildings out of 1200 buildings that are thirty years old and above (Adewale, Olabisi and Olawunmi, 2018) were adopted as the sampling frame for this study.

Sample Size

The total respondents sample size for the study (400 households) was arrived at using the sample size determination formula of Yamane Taro 1963 (cited in Eshetu and Mekonnen, 2016).

Sampling Technique

To collect data, the study adopted multi-stage sampling technique. Systematic sampling method was used to select 100 houses in each of the sampled residential area. This was done by the use of balloting method while purposive sampling method was used to sample the head of the households and thereafter administered a copy of the structured questionnaire designed for this study (Table 1).

Table1: Questionnaire Administration across Districts.

Residential Status	Residential District	Number of identified houses	Random sampling of houses	Total Sampled Houses
HIGH	Adankolo	255	100	200
	Lokongoma	234	100	

LOW	Sarki –noma	171	100	200
	Zone 8	162	100	
Total	4 Residential Areas	822	400	400

Source: Field Survey, 2024.

Method of Data Analysis

The study adopted both descriptive and inferential statistics analytical methods to analyze the data collected. Data collected objectively (quantitatively) on housing quality were summarized into Graph, Frequency and Percentage table while data collected subjectively on housing degeneration was summarized using Mean Weight Analysis method and summarized into tables. This study employed 3-points Likert Scale where the Mean Weight Value (MWV) for each response and the General Mean Weight Value (GMWV) to all responses were both calculated. MWVs of all the variables were collated and ranked

In doing so, respondents responses to Good (G), Fair (F) and Bad (B) were rated as 3, 2 and 1. The correspondent respondents responses to G, F and B were multiply by the 3, 2 and 1 respectively and then added together to get the Total Weighted Values (TWV) for each factor of housing degeneration. The TWV was divided by number of respondents (n) to arrive at the Mean Weighted Value (MWV) for each factor of housing degeneration. Finally, the Grand Mean Weighted Value (GMWV) for all factor of housing degeneration was obtained by dividing the Summation of all Mean Weighted Values ($\sum$ MWVs) by total number of housing condition variables (x).

Thus, any factor of housing degeneration with Mean Weighted Value greater than the Grand Mean Weighted Value were accepted and recognized as factor responsible for or affecting housing degeneration and vice versa (Sunmola, 2018). Moreover, the stated hypothesis was tested using Student's T-Test at (0.05) 5% level of significance.

4. RESULTS AND DISCUSSION

Socio- Economic Characteristics of Respondents

The study revealed that 62 % of the respondents are males, while 38 % are females. Thus, in this study males were more represented than the females. This is a credence that household heads are males and as such need to build or rent house to accommodate their family.

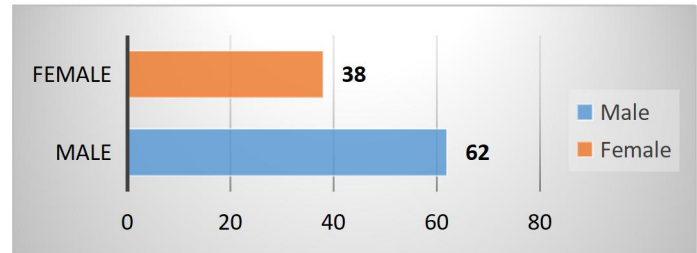


Figure 3: Bar Chart Showing Respondents' Gender

Source: Field Survey, 2024.

Respondents' Marital Status

Table 2 revealed that 72.3% of the respondents are married, 15.8% are single, while 6.3% and 5.8% are widowed and divorced respectively. These results showed that majority of the respondents are married.

Table 2: Marital Status of Respondents

Marital Status	Frequency	Percent
Married	289	72.3
Single	63	15.8
Widow/Widower	25	6.3
Divorced	23	5.8
Total	400	100

Source: Field Survey, 2024.

Housing Degeneration in the Study Area

With a GMWV = 2.16, the accepted types of housing degeneration within the High density residential areas (Adankolo and Lokongoma Zones) in the study area include but not limited to drainage system facility (MWV= 2.20), structural condition of building (MWV= 2.44), condition of plastered/ painted walls (MWV= 2.21), toilet and bathroom condition (MWV= 2.23), Ventilation (MWV= 2.19), Condition of the roof (MWV= 2.22), access to waste disposal (MWV= 2.17), accessibility (MWV= 2.22), Condition of ceiling (MWV= 2.40), and Access to water/sanitation (MWV= 2.46) as seen in table 3

Table 3: Types Of Housing Degeneration Within The High Density Residential Areas (Adankolo And Lokongoma Zones) In The Study Area.

Responses					Likert's Rating			TWV	MWV	Decision
Housing Condition	G	F	P	Total	3	2	1			
					3	2	1			
Drainage system facility	46	56	60	162	186	112	60	358	2.20	Accepted
Structural condition of building	18	55	89	162	267	110	18	395	2.44	Accepted
Condition of plastered/ painted walls	44	40	78	162	234	80	44	358	2.21	Accepted
Toilet and bathroom condition	30	65	67	162	201	130	30	361	2.23	Accepted
Ventilation	41	63	58	162	188	126	41	355	2.19	Accepted
Condition of the roof	39	61	62	162	199	122	39	360	2.22	Accepted
Access to waste disposal	41	52	69	162	207	104	41	352	2.17	Accepted
Accessibility	36	55	71	162	213	110	36	359	2.22	Accepted
Condition of ceiling	45	48	69	162	225	96	69	390	2.40	Accepted
Access to water/sanitation	55	34	73	162	259	68	73	400	2.46	Accepted
GMWV = 2.16										
Note: G= GOOD (1), F= FAIR (2), P=POOR (3).										

Source: Field Survey, 2024.

With a GMWV = 2.35, the accepted types of housing degeneration within Low Density Residential areas (Sarki-noma and Zone 8) are; structural condition of building (MWV

= 2.62), condition of plastered/ painted walls (MWV =2.47), rusted condition of the roofing sheet (MWV = 2.40) as seen in table 4.

Table 4: Responses To Types Of Housing Degeneration Within Low Density (Sarki-Noma And Zone 8) Residential Area In The Study Area.

Responses					Likert's Rating			TWV	MWV	Decision
Housing Condition	G	F	P	Total	3	2	1			
					3	2	1			
Toilet and bathroom condition	131	77	30	238	366	154	30	550	2.31	Rejected
Condition of the roof	133	66	39	238	399	132	39	570	2.40	Accepted

Ventilation	136	63	39	238	380	126	39	545	2.28	Rejected
Structural condition of building	165	55	18	238	495	110	18	623	2.62	Accepted
Condition of ceiling	111	58	69	238	333	116	69	518	2.18	Rejected
Condition of plastered/ painted walls	155	39	44	238	465	78	44	587	2.47	Accepted
Access to water/sanitation	112	55	71	238	336	110	71	517	2.17	Rejected
Access to Waste disposal	136	55	47	238	398	110	47	555	2.33	Rejected
Accessibility	121	48	69	238	333	138	69	540	2.26	Rejected
Drainage system facility	106	66	66	238	318	132	66	516	2.17	Rejected
GMWV = 2.35										
Note: G= GOOD (1), F= FAIR (2), P=POOR (3).										

Source: Field Survey, 2024

Comparatively, the most prominent types of housing degeneration observable within High density residential area (Adankolo and Lokongoma Zones) in the study area have to do with the poor structural condition of buildings and ceilings, loss of aesthetic value of the condition of plastered/ painted walls, prevailing bad condition of the toilets and bathrooms, inadequate accessibility due to presence of slums poor and deteriorated ventilation due to too much closeness of buildings, rusted condition of the roofing sheet due to prolonged exposure to weather and poor quality of the roofing sheet, poor drainage system which leads to pollution of the environment, poor sanitation and water availability and finally poor or virtually absent access to waste disposal points/dungs that has made the High density residential area (Adankolo and Lokongoma Zones) lost good scenic value (Table 3).

Unlike, the high density residential area, the types of housing degeneration within the Low Density Residential Area (Sarki-noma and Zone 8) in the study area include structural condition of buildings, condition of plastered/ painted walls and condition of roof (Table 4). Going by what was observed during the reconnaissance survey for this study most of structures in the low residential density area were fashioned after the ones found in overseas and imported. These designs

cannot withstand the prevailing weather condition of the Tropics, hence, the high rate of their degeneration of these structures, the washing and fading away of their plastered/ painted walls by intense sun radiation and rainfall.

Thus, unlike the development of residential quarters in developed world, most of residential quarters in Nigeria do not take in to cognizance of things such as like layout, accessibility, drainage system and waste dump sites among other necessities that are needed to be put in place before buildings sprung up in new sites. In so doing, buildings in most of the new sites in the study area were built haphazardly, hence, the high level of degeneration of drainage system and accessibility condition.

Hypothesis Testing

The hypothesis was tested by subjecting the summary of the Mean Weight Values of responses to features of degeneration to Student's T-Test Analysis.

At $p=0.05$ and $df=18$, the Calculated t-Value = 6.154 while the Tabulated t-Value is 1.725. Since the Calculated t-Value 6.154 is greater than the Tabulated t-Value = 1.725. H_0 is rejected. That is, there is significant difference in housing degeneration between High Density Residential Areas (Adankolo and Lokongoma areas) and Low Density Residential Areas (Sarki-Noma and Zone 8) in the study area.

Table 5: Summary Of Student's T-Test Analyses On Difference In Degeneration Between High Density (Adankolo And Lokongoma Zones) And Low Density Residential Area (Sarki-Noma And Zone 8) In The Study Area.

Variables	Cal t-test value	Df	A	Tab t-test Value	Decision

Degeneration between High density (Adankolo and Lokongoma Zones) and Low Density Residential Areas (Sarki-Noma and Zone 8) in the study area.	6.154	$n_1 + n_2 - 2$ $= 10 + 10 - 2 =$ $20 - 2 = 18$	0.05	1.725	H_0 is rejected
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Source: Field Work, 2024

5. CONCLUSION

The result showed that the respondents were more of males to females and majority of the respondents are married. Considering the urban nature of the buildings, it was discovered that majority of houses were built in low density residential area using cement blocks while high density residential area mostly use mud bricks. It was also discovered that majority in high density residential area use zinc for roofing while majority in low density residential area use aluminum in roofing their buildings. In addition, low density residential areas in the study area mostly use water closet while high density residential area use the pit latrine. Moreover, it was discovered majority of respondents in low density residential area have indoor self-contained bathroom while high density residential area have out door-open courtyard which in a way limits their privacy and makes them exposed. Respondents in high density residential areas have the open drainage system available. So, it is safe to conclude that in most neighbourhoods, water overflows during the raining season and floods the road as a result of the opened drainage system. Free range- roadside disposal system and outdoor disposal method which they burn is common in high density residential area. This could lead to littered environment in some areas in Lokoja.

Thus, the most prominent types of housing degeneration observable within the residential areas in the study area have to do with the poor structural condition of buildings and ceilings, loss of aesthetic value of the condition of plastered/ painted walls, prevailing bad condition of the toilets and bathrooms, inadequate accessibility due to presence of slums, poor and deteriorated ventilation due to too much closeness of buildings, rusted condition of the roofing sheet due to prolonged exposure to weather and poor quality of the roofing sheet, poor drainage system which leads to pollution of the environment, poor sanitation and water availability and finally poor or virtually absent access to waste disposal points. It is also an established fact that the level of housing degeneration in the study area is more prominent in the high residential district than in low residential district.

At $p=0.05$ and $df=18$, the Calculated t-Value = 6.154 while the Tabulated t-Value is 1.725. Since the Calculated t-Value 6.154 is greater than the Tabulated t-Value =1.725. H_0 is rejected. That is, there is significant difference in housing degeneration between High density (Adankolo and Lokongoma areas) and Low Density Residential areas (Sarki-Noma and Zone 8) in the study area.

Hence, based on respondents' perception which were retrieved from information of questionnaires administered to respondents. The result showed they have problem of poor waste disposal facility which has pollution effect on the

environment and health of residents in the study area.

Recommendation

In light of the findings of this study, this study hereby recommends that the residents should be sensitized on causes of deteriorated houses and danger of free range waste disposing of waste to increase residents' consciousness on its implication. In addition, they need drainage system for improvement of the quality of housing as well as knowledge of the benefits of healthy environment in Lokoja, Kogi State.

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