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HOUSING AFFORDABILITY IN IKORODU LOCAL GOVERNMENT AREA, LAGOS STATE, NIGERIA

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Abstract

Housing provision and affordability are among the critical challenges in the housing sector in Nigeria, others being housing finance and land accessibility. Consequent upon the increasing housing challenges in Nigerian urban centres, this study examined the level of housing affordability among households in Ikorodu Local Government Area, Lagos State, Nigeria with a view to providing information that will enhance housing supply and increase housing affordability in the study area. Primary and secondary data were sourced and utilized in this study. Sampling was done using multi-staged and random sampling techniques. Two hundred and fifty-five (255) sets of questionnaires were administered on the residents of the study area. Data collected were analysed using both descriptive and inferential statistics such as frequency table, relative importance index and factor analysis. Applying the 30% income – to - rent housing affordability measure, about 59.7% spend more than 30% of their income on rent, thus facing housing affordability challenges in the area. This study found that cost of routine household maintenance, proximity to transport route, and non-housing related expenses borne by households were the factors influencing housing affordability challenges in the study area. The study concluded that there is high level of housing affordability challenges in Ikorodu Local Government Area of Lagos State, Nigeria across the low, medium, and high rental value properties. This implies that a vast majority of households in Ikorodu lack economic resources for other family necessities after spending over 30% of their income on house rent. Hence the study recommended on the one hand that real estate developers should explore the profitable opportunities for real estate investment in Ikorodu for improvement in Ikorodu landscape with better housing designs, and consequently promote the state gross domestic product (GDP) and by extension the national GDP too. While on the other hand, the government is encouraged to intervene in housing delivery in Ikorodu in order to mitigate housing affordability challenges by increasing housing supply and pushing down house rent in Ikorodu.

Keywords: Affordability, Housing, Core area, Sub-urban area, Transition area.

INTRODUCTION

The rate of urbanization in Nigeria has been on the increase in the last two decades (Akinyemi, Hadiza, & Salau, 2020). According to Kookana, Drechsel, Jamwal and Vanderzalm (2020), the

rate of growth of urban population is remarkable as over 3 billion of the 6.3 billion people of the earth are city dwellers. It was documented in 2014 that 54 percent of the world's population is residing in urban areas, and it is projected that by 2050, 66 percent of the world's population will be urban residents. The proportion of the country's population living in urban centers has increased phenomenally over the years (Ravindra, 2020). In a study of Nigerian demography, Umar, Johnson and Cheshire (2021) noted that over 40% of Nigerians live in urban centers of varying sizes. This incidence of population increase in urban centers has created severe housing problems, resulting in overcrowding, and a situation in which 60% of Nigerians can be said to be "houseless persons" (Iwuagwu, Onyegiri, & Iwuagwu, 2016). Urban population growth has also manifested in the form of: stress on existing housing stock, overcrowding, insanitary condition of buildings, high rents, slum and squatter settlement, strain on inadequate amenities and facilities (Jiboye, Adebayo & Adetayo, 2020).

Housing sector plays a critical role in the development of an economy (Wu, 1996; Meehan & Bryde, 2015). Housing is an integral part of human settlement that fulfills basic needs and has a profound impact on the quality of life, health, welfare, as well as productivity of man (Alagbe, 2011; Rukaiyat, Yakubu, Foluke and Ismail, 2015). The advantages of housing to nations cannot be over emphasized as it impacts on the economic, socio-cultural and political life of the citizens. Adeleye, Azeez and Yusuff (2014) opined that housing is recognized worldwide as one of the basic necessities of life and a pre-requisite to survival of man. After the provision of food and clothing, housing is the most important factor for the physical survival of man. It has been shown that housing is one of the best indicators of a person's standard of living and socio-economic class in the society (Oyo-Ita, 2017). However, in order for the benefit of housing to be attainable in any country, it needs to be available and affordable to every category of the citizenry, irrespective of their income level, social status etc.

Meanwhile, the increase in the prices of conventional building materials (which are imported), and the fluctuating economy is contributing to the growing severe problem of housing affordability (Gbadeyan, 2011; Ebekozien & Aigbavboa, 2021). Opaluwa (2010) rightly noted that the average income of Nigerians is too low to support the construction of buildings within a short or even medium time span. Many families find it difficult to cope with regular and prompt rent payment. This, in turn, makes, the average Nigerian, the aspiration of owning a house or occupying adequate rented apartment almost elusive (Abimaje, Akingbohungbe and Baba, 2014). This brings in the financial dimension - the question of the affordability of housing. The challenge becomes not only to provide the houses but to make the houses affordable to the average worker in Lagos. This study seeks to in determine the extent of housing affordability among the low- and middle-income groups in relation to location, neighbourhood quality, and the building quality in the various settlement areas in Ikorodu (Town or LGA), Lagos State, Nigeria.

LITERATURE REVIEW

Assessing housing needs in developing countries typically considers three dimensions: amenity, affordability and overcrowding (Bogdon & Can, 1997). Unlike amenity and overcrowding

problems which are more prevalent in less developed economies, the problem of housing affordability is associated with multi-faceted economic, social, political and demographic considerations. However, according to Obi and Ubani (2014), affordable housing provision has remained elusive to the average Nigerian, and it appears that the government's efforts in addressing housing challenge has not yielded a good national housing outcome. This situation, perhaps, explains why many studies looked at this nagging housing problem. However, extensive search for recent relevant housing affordability or related literature in Nigeria and abroad revealed the existence of a handful of studies. Of the entire literature survey; Hulchanski (1995); Stone (2006); Aribigbola and Ebhikhalu (2006); Onyike (2007); Ndubueze (2009); Animashaun (2010); Jewkes and Delgadillo (2010); Milligan and Pinnegar (2010); Ewa et al (2013), Abimaje et al (2014), Eni (2014), Adegoke (2018), and Adegoke and Agboola (2020) all focused on housing affordability in Nigeria.

On the foreign scene, studies on the perception and evaluation of the concept of housing affordability include Hallet (1993), Department of Housing and Urban Development (2011), Marietta and Kath (2019), and Randolph and Holloway (2020). These studies have expressed housing affordability as a measure of cost relative to incomes. Majority of these studies based their conception of housing affordability on the 30% benchmark wherein families who pay more than 30 percent of their income on housing were considered cost burdened, and those at 50 percent and above, severely shelter-cost burdened. However, the adoption of the fixed benchmark neither recognizes housing characteristics nor accommodates household preferences (Ndubueze, 2009). Jewkes et al., (2010) investigated the strengths and shortcomings of three housing affordability indices (namely, Price-to-income ratios, Housing expenditure-to-income ratios, and Residual income measures) for measuring housing affordability. Thereafter, Jewkes et al. (2010) concluded that the use of the 30% of gross income benchmark is the most suitable housing affordability index as it is easy to compute. The study however remarked that the measure failed to take cognizance of household preferences and choice, household size and as such may be erroneous.

Ewa et al., (2013) examined housing affordability problems of residents in Calabar Metropolis, Cross River State, Nigeria. The study revealed that people in Calabar spend substantial amount of their monthly income on housing. The study, however, did not take cognizance of the 30% benchmark stipulated by the National Housing policy (2012), while Eni (2014) considered the perception of the occupants in public housing estates in Awka and Onitsha towns in Anambra State and concluded that the public housing estates were affordable because the occupants were not expending more than 30% of their incomes. But the present study focused on all residential units across the study area, and not particular public housing estates.

Abimaje et. al (2014) reported a survey on housing affordability in Idah, Kogi State as a case study. The study concluded that 68.2% of the people in the study area spend above 30% of their monthly income on housing. This is at variance with the 30% affordability benchmark established in US laws for federal housing assistance programmes in the 1980s (Herbert, Hermann, and McCue, 2018). This 30 percent of income benchmark has widely been used by housing studies scholars such as Beer, Kearins and Pieters (2007), Cox and Pavletich (2010) as

well as Adedeji, Arum and Ajayi (2011). Ndubueze (2009) however examined the nature of household housing affordability in Nigeria in the light of housing policy and concluded that housing preference is a major determinant of housing affordability.

Onyike (2007) reported an assessment of affordability of adequate owner occupier housing by public servants in Imo State. The study was confined to a review of housing affordability among public servants in relation to the then new salary structure. However, the study failed to consider the socio-economic characteristics of the civil servants which could impact on the housing affordability profile of the group. Furthermore, Onyike (2007) did not examine housing affordability by public servants with regards to rental accommodation but rather restricted the study's attention to owner occupier housing. Additionally, in contrast to 30 percent of income benchmark, which is popular among housing scholars, Onyike (2007) recognised the peculiarities of the survey group, and adopted a 50% of household income as reasonable benchmark for housing affordability. However, this study took cognizance of the socio-economic features of the residents of Ikorodu, because as the study population encompassed all the inhabitants of the study area with diverse job experiences and income levels.

From the foregoing, significant gaps in existing literature were identified. First, studies in Nigeria that have investigated the credibility of the 30 percent benchmark are limited; despite its problems, the 30 percent threshold is currently the most widely used indicator of housing affordability (Beer et al, 2007). Consequently, the 30 percent benchmark was adopted in this study. Also, the disconcerting dearth of housing affordability studies in African despite the enormity of housing problems in the continent prompted this study. Moreover, Lagos State is the leading urban state in Nigeria, so, the geographical focus of this study on Ikorodu Lagos State, Nigeria is appropriate. Besides, the findings of existing studies carried out in other locations could not be generalized to cover the housing affordability reality of Ikorodu area. Specifically, regional variations in housing tenure, and socio-economic disposition exist between Ikorodu and other locations. Consequently, this study is both urgent and credible for making effective housing provisions policy in urban governance in Lagos State, Nigeria.

Housing Affordability

Housing is more than shelter; simply providing housing units does not measure the success of any housing projects (Laird, 2007). The assumption that the physical and structural efficiency of a dwelling is a good measure of its adequacy and habitability is narrow and misleading (Ogunbayo, Ajao, Alagbe, Ogundipe, Tunji-Olayeni, & Ogunde, 2018). However, the issue of housing affordability has long been viewed from several perspectives and essentially has been the subject of a number of researches (Fleury-Bahi et al., 2008). Conceptually, housing affordability according to Anacker (2019), refers to the degree of contentment experienced by an individual or family with regard to the current housing situation. It is an index for determining the level of contentment with housing and refers to an entire continuum of affordability. Oladapo (2006) and Ibem, Adeboye, & Alagbe, (2015) have observed that a dwelling that is adequate from the physical or design point of view may not necessarily be adequate or satisfactory from the users' point of view.

The term housing affordability is used widely in evaluations of the impact of the cost of housing on consumers but with a number of different meanings and measures. The most general use of the term centres around consideration of the extent to which housing costs for a given standard of housing impinge upon a household's income to live on or their capacity to meet their total household needs (Hancock, 1993, Mattingly & Morrissey, 2014). It can also be said to mean the ability to afford housing. Comparing the relationship between housing expenditure (rent or mortgage) and household income is certainly the most common way to define and express housing affordability internationally (Whitehead, 1991; Kutty 2005; Mulliner, & Maliene, 2015). However, the concept is multi-dimensional and goes much wider than this traditional notion. Conceptualizing and measuring affordability in this manner focuses only on financial attributes and fails to deal with wider social and environmental issues such as housing quality, location and access to services and facilities.

A survey of literature reveals a lack of consensus among academics and housing development experts on how it should be defined and measured. This may be attributed to the fact that housing affordability is a contested issue in which different groups struggle to impose their own definition and solution to the problem (Gabriel, Jacobs, Arthurson, Burke & Yates, 2005; Haffner & Hulse, 2021). The ambiguous nature of affordability was aptly captured by Quigley and Raphael (2004), and Hassan, Hamdan and Abdullah (2017) in stating that Affordability jumbles together in a single term a number of disparate issues: the distribution of housing prices, the distribution of housing quality, the distribution of income, the ability of households to borrow, public policies affecting housing markets, This mixture of issues raises difficulties in interpreting even basic facts about housing affordability, conditions affecting the supply of new or refurbished housing, and the choices that people make about how much housing to consume relative to other goods (Olanrewaju, & Woon, 2017).

Study Area

In terms of landmass, Lagos State is the smallest state in Nigeria, but it is also the second most populated state after Kano, with a population of 9,013,534 according to National Population Commission (NPC, 2006). In addition, Lagos State is the centre of commerce and industry in Nigeria. Although, Lagos State is essentially a Yoruba-speaking state, it nevertheless acts as a socio-cultural melting pot that attracts both Nigerians and foreigners alike. The state was created on May 27, 1967 by virtue of State (Creation and Transitional Provisions) Decree No. 14 of 1967, which restructured Nigeria's Federation into 12 states. Lagos State lies in South-Western Nigeria, on the Atlantic coast in the Gulf of Guinea, west of the Niger River Delta located between Latitude 6º and 7º north of the Equator and Longitude 3º and 4º East of the Greenwich Meridian (See Figure 1).

The high rate at which the population of Lagos is growing coupled with wide expanse of water has significant implications for availability of land for residential development. In Lagos Metropolis (in which more than 85% of the entire population of the state is harboured, on a portion of land representing just 37% of the state's total landmass), demand for land for residential and industrial purposes outstrips real supply by far. In addition, the resultant effect of rapid population growth in Lagos is excessive demand for housing. There is a yawning gap

between the need for housing and the available stock of dwelling units and this gap is still expanding since the number of units constructed annually falls short of the growth in households (Ajakaiye & Akinbinu, 2000). The inability of an average resident to own or rent a decent house has encouraged the growth of spontaneous housing in the peri-urban areas.

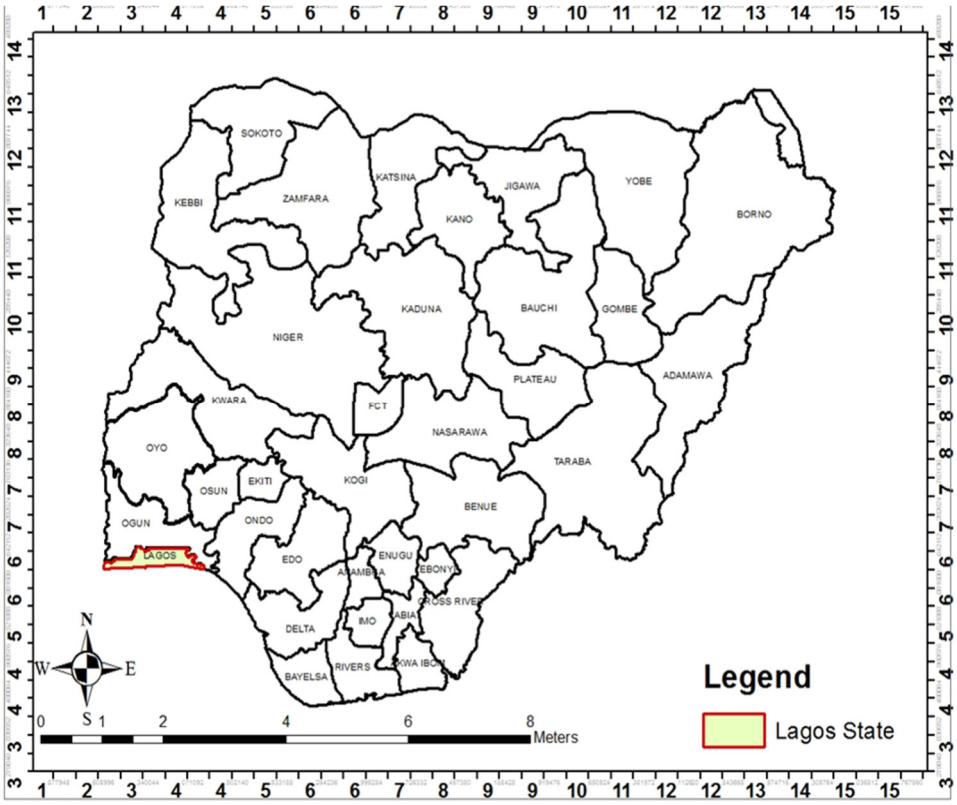

Figure 1: Map of Nigeria showing Lagos State
Source: Ministry of physical planning, Lagos State, 2021

Ikorodu is a municipality in Lagos State, which is one of the most populous states in the Federal Republic of Nigeria (See Figure 2). It is located in the North East of Lagos State along the Lagos lagoon and situated at a distance of approximately 36km north of Lagos. In year 2016, the projected population for Ikorodu was 535,619 (LASG Ministry of Economic Planning and Budget, 2016). It has a large industrial area containing many factories and notable commercial services. Ikorodu represents a highly urbanised peri-urban area in Lagos in terms of residential development and population growth. Ikorodu area is a mixture of urban and rural setting with the urban having a large percentage of the landmass. It houses people from various backgrounds, races, and ethnic cleavages involved in white-collar jobs, trading, farming and fishing activities. It is essentially a Yoruba-speaking human settlement. The high rate of rural-urban migration to the local government area has necessitated a high demand for housing. It can be said that Ikorodu has experienced noticeable spatial expansion in terms of residential development in the recent years.

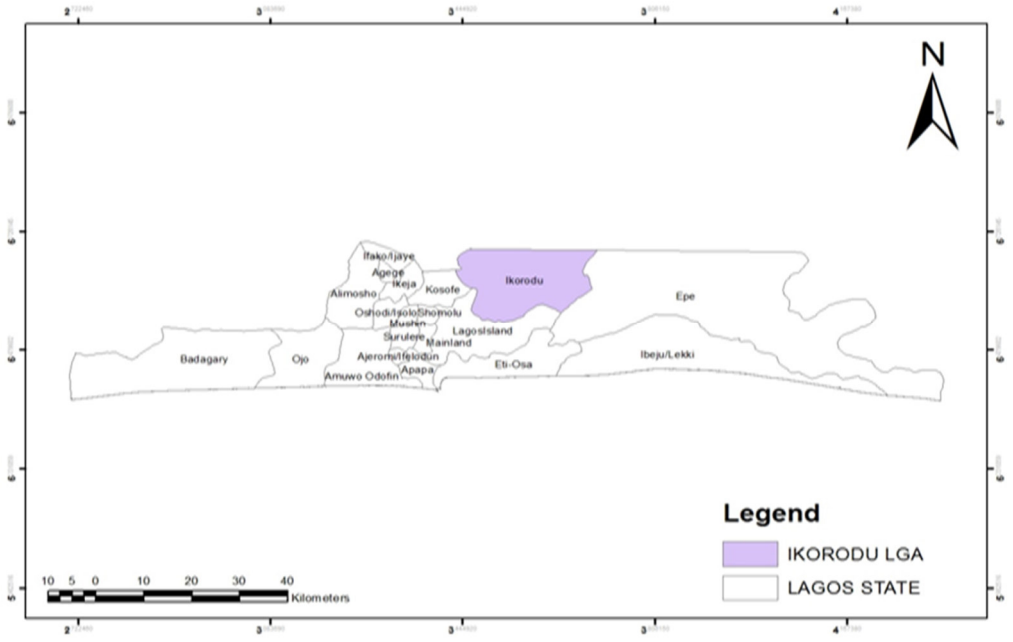

Figure 2: Map of Lagos State showing Ikorodu
Source: Ministry of physical planning, Lagos State. (2021)

RESEARCH METHODOLOGY

Data used in this study were collected from both primary and secondary sources. The Primary data for the study were derived through questionnaire administration and direct observation. Information obtained through questionnaire administration include residents' socio-economic characteristics, housing typology and characteristics, determinants of affordable housing levels factors amongst others. The secondary sources of data include number of wards and their distribution collected from the Independent National Electoral Commission, Ikorodu district. Administrative and Land Use Maps were also obtained from the Lagos State physical planning office, as well as from the Google earth website. Other secondary data were gotten from past research reports, journals, textbooks and websites. Moreover, all the sources of secondary data highlighted were selected based on relevance to the topic of this study.

Multi-stage sampling technique was used for this study. First, the residential areas in Ikorodu Local Government were stratified into three residential zones i.e., the core, suburban and the transition. It is worthy to note that when the State Government introduced 37 new Local Development Council Areas (during President Obasanjo's regime) between 1999 and 2007, Ikorodu Local Government was divided into six as follows: Ikorodu, Ikorodu North, Ikorodu west, Imota, Ijede, and Igbogbo- Baiyeku.

The next stage involved the selection of samples from the selected area in each cluster. From the cluster sample, a total of 4,104 buildings were identified in the selected area. Krejcie and Morgan (1970) noted that with a margin of error of 5% and a confidence level of 95%, a sample size of 255 for a population of 4,104 is adequate for generalization in a study. Hence this study sampled 255 buildings in the study area.

Simple random sampling technique was adopted in selecting every fifty buildings counting from the first to the last row of buildings in each of the clusters in the three residential zones. Therefore, 119 sets of the questionnaire were administered in the core residential zone, while 67 and 69 sets of the same data collecting instrument were administered in sub-urban and transition zones respectively based on the building density found in each zone. While doing so, if the next fifth (5th) building happens to be any other use aside from residential, the next available residential building was selected. The target person for the survey in the sampled building is the household head who could either be male or female. After the data collection, a variety of analytical tools appropriate for each objective were employed in data analyses.

DATA ANALYSES AND DISCUSSIONS

Rent Profile of Respondents

The study investigated the average rent paid per annum by households in Ikorodu Local Government. As summarized in Table 1, rents paid by respondents for accommodations in the study area per annum were grouped into five categories as follows: (a) below N60000, (b) N60001 - N90000, (c) N90001- N120000, (d) N120001 - N150000 and (e) N 150001 and above. However, a close look at the table reveals highest concentration of low rental value accommodation in the transition area (54%), followed by 24.2% in the sub-urban area. Although, low rental value accommodation is equally available in the core area which possesses the highest land value, it is nevertheless a relatively scarce feature in the urban landscape at 15.5%. On the one hand, residential accommodation within N60001 - N90000 rent bracket is relatively a regular feature in all the zones in the study area at 32.7%, 20.7%, and 25.8% for core, sub-urban, and transition areas respectively. While on the other hand, residential accommodation within N90001 – N120000 rent bracket appears to be significantly more in the core area (29%), followed by 13.8% and 6.5% in the sub-urban and transition areas respectively. Nonetheless, residential accommodation within N120001 – N150000 rent bracket is remarkably higher in the sub-urban area at 37.9% than in core, and transition areas at 10% and 3.2% respectively. Lastly, residential accommodation within N150001 and above rent category is relatively lacking in the sub-urban area constituting 3.4%, but is 12%, and 9.7% in the core, and transition areas respectively.

In all, it can be asserted that the housing accommodations in the four rental categories examined in this study exist in the core, sub-urban, and transition areas. However, there is a significant variation in the concentration of the housing types across the three zones in Ikorodu LGA as earlier reported in the data. The fact that low rental value accommodation exists in the core area of highest land values supports the proposition that the low- and medium-income factory

workers need to live close to their places of work. Although, housing quality was not investigated in this study, it is, however, assumed that the low rental value accommodations found in sub-urban, and transition zones could be of higher standards than the those in the core area. Empirically, low rental value accommodations are found in the core areas of a district in old buildings awaiting redevelopment.

Table 1: Annual rent of respondents in the different residential zones.

Rental value	Core area		Sub-urban area		Transition areas		Total	
	Frequency	(%)	Frequency	(%)	Frequency	(%)	Frequency	(%)
Less than ₦60000	9	15.5	7	24.2	17	54	33	28
₦60001 - ₦90000	19	32.7	6	20.7	8	25.8	33	28
₦90001 - ₦120000	17	29	4	13.8	2	6.5	23	19.4
₦120001 - ₦150000	6	10	11	37.9	1	3.2	18	15.3
₦150001 and above	7	12	1	3.4	3	9.7	11	9.3
Total	**58**	**100**	**29**	**100.0**	**31**	**100.0**	**118**	**100**

Rent to Income Ratio of Respondents

Summarized in Table 2 is the residents' rent to income ratio of residence in Ikorodu Local Government Area. The residents' rent to income ratio in the study area is in three categories i.e., those that pay less than 20%, those that pay between 20-30% and those that pay above 30%. However, it can be deduced from the table that a large percentage of the respondents are paying more than 30% of their income on rent as it accounted for 55.9% of the participants in this survey, while those that are paying between 20-30% and less than 20% accounted for 32% and 11.1% of the participants respectively. Furthermore, it can also be deduced that 60.3% and 65.5% of respondents are paying more than 30% in the Core area and Sub-urban area. In the Transition area, 41.9% of the respondents spend less than 30% of their income on rent.

Table 2: Rent to income ratio in the different zones

Ratio	Core area		Sub-urban area		Transition areas		Total	
	Frequency	(%)	Frequency	(%)	Frequency	(%)	Frequency	(%)
Less than 20%	5	8.6	3	10.3	6	19	14	11.8
20 – 30 %	18	31	7	10.3	13	41.9	38	32.2
Above 30%	35	60.3	19	65.5	12	38.7	66	55.9
Total	**58**	**100**	**29**	**100.0**	**31**	**100.0**	**118**	**100**

Applying the 30% of income rule of the thumb to Table 3, about 60.3% of the respondents in the core area have housing affordability problem, while 65.5% and 38.7% of respondents in the

Sub-urban area and Transition areas respectively have the same socio-economic challenge. This is because they pay more than the 30% maximum benchmark on housing units occupied by them.

Table 3: Level of affordability

Ratio (Or factor?)	**Core area**		**Sub-urban area**		**Transition areas**		**Total**	
	Frequency	(%)	Frequency	(%)	Frequency	(%)	Frequency	(%)
Non- Affordability problem	23	39.7	10	34.5	19	61.3	52	44.2
Affordability problem	35	60.3	19	65.5	12	38.7	66	55.9
Total	**58**	**100**	**29**	**100.0**	**31**	**100.0**	**118**	**100**

It is evident that majority of the respondents (55.9%) across all residential zones have affordability problems which in turn could cause housing stress.

Factors influencing the level of housing affordability

This section focuses on identifying and examining the factors that influence housing affordability in the study area as perceived by residents. In achieving this, the factor analytical technique was employed. Factor analysis methods were used to examine how underlying constructs influence the responses on a number of measured variables. The suitability of data for factor analysis was first checked based on Kaiser-Meyer- Olkin (KMO) and Bartlett's test values. The data were acceptable for factor analysis at KMO = 0.817 and Bartlett's test significant at 0.000 level, both of which are better than the threshold values of 0.5 and 0.1 for KMO and Bartlett test respectively.

Secondly, the variables were validated based on communality of variables. Variables with small values were dropped in order to achieve a good fit factor solution from analysis. Thereafter, the results of the factor analysis were interpreted in line with the general guidelines for factor analysis.

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.817
Bartlett's Test of Sphericity	Approx. Chi-Square	4202.760
	Df	253
	Sig.	.000

Principal Component Analysis was used in this study to collapse the twenty-three (23) d determinants of housing affordability among residents of the study area into the principal ones.

In Table 5, the initial communalities of the twenty-three variables were presented. After extraction, the communalities reflected the common variance in the data structure. The variable with the lowest communality individual savings with 59.6% of the variance shared across the study area while the highest communalities changes in household/non-household related expenses accounted for 79.4% after extraction.

Presented in Table 6 are the lists of the eigenvalues associated with linear component (factors) before extraction, after extraction and after rotation. Before extraction there were twenty-three (23) linear components which were the same as the available variables. The eigenvalue associated with each factor represented the variance explained by that particular linear component and also represented the percentage of variance explained. From the table, the variance explained by factors 1, 2, and 3 were 43.5%, 9.17%, and 6.7% respectively. All factors with Eigen values above 1 and contributed to the explanation of the variance were extracted and represented under the column extraction sums of squared loadings.

The last column of Table 6 labelled rotation sum of squared loadings, represented the eigenvalues of the factors after rotation. The rotation had the effect of optimizing the factors structure. Before rotation, variable one accounted for considerably more variance than the remaining two i.e., 43.5% compared to 9.17%, and 6.7%. However, after rotation it accounts for only 26.19% of the total variance compared to 19.99% and 13.18%. Together, they explained a total of 59.37% of the variability in the original variables. This implied that three indicators namely, (a) cost for routine household maintenance, tools and equipment's, (b) proximity to transport route, and (c) change in household/non housing related expenses were enough to explain the factors that influence housing affordability in the study area.

Table 5: Communalities of housing affordability among residents in Ikorodu

S/N	Factors	Initial	Extraction
1	Cost for routine household maintenance, tools and equipment's	1.000	.812
2	Proximity to transport route	1.000	.799
3	Change in household/non housing related expenses	1.000	.794
4	Cost of acquiring rental property	1.000	.776
5	Service charge (waste collection, security)	1.000	.759
6	Cheap accommodation	1.000	.753
7	Building Condition	1.000	.752
8	Free accommodation in Family house/ close to my Family compound	1.000	.750
9	Availability of credit facilities	1.000	.744
10	Age of building	1.000	.739
11	Level of privacy	1.000	.734
12	Fear of neighbourhood unrest or external influence	1.000	.726
13	Size of household	1.000	.723
14	Neighbourhood sense of belonging	1.000	.714
15	Number and Size of bedrooms, toilets	1.000	.703

16	Availability of open spaces/ Parking spaces/ health center	1.000	.702
17	Proximity to place of work/ worship	1.000	.693
18	Interest on loan/debt payment	1.000	.687
19	Quality of environment	1.000	.648
20	Service provided (water supply, electricity facility)	1.000	.625
21	Level of income	1.000	.620
22	Multiple sources of income	1.000	.603
23	Individual savings	1.000	.596

Extraction Method: Principal Component Analysis.

Table 6: Total variance explanation of housing affordability

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
S/N	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	11.74	43.505	43.505	11.746	43.505	43.505	7.073	26.197	26.197
2	2.476	9.172	52.677	2.476	9.172	52.677	5.399	19.995	46.192
3	1.810	6.702	59.379	1.810	6.702	59.379	3.561	13.187	59.379
4	1.458	5.400	64.779						
5	1.153	4.269	69.048						
6	1.133	4.296	73.244						
7	.948	3.511	76.755						
8	.897	3.323	80.078						
9	.751	2.781	82.859						
10	.602	2.229	85.088						
11	.506	1.872	86.961						
12	.491	1.820	88.781						
13	.427	1.581	90.362						
14	.349	1.293	91.655						
15	.339	1.256	92.911						
16	.304	1.126	94.037						
17	.281	1.040	95.077						
18	.242	.896	95.974						
19	.200	.741	96.714						
20	.185	.686	97.400						
21	.168	.621	98.022						
22	.134	.497	98.519						
23	.112	.414	98.933						
24	.098	.364	99.297						
25	.092	.342	99.640						
26	.067	.247	99.887						
27	.031	.113	100.000						

Extraction method: Principal Component Analysis

In factor analysis, it is possible to obtain factors that explained a large proportion of variance. Some variables loaded high on one factor and low on the other factor(s) and thus the need for rotation matrix. The rotated component matrix residents‟ determinants of housing affordability in the study area were presented in Table 7. This table explained the structure of the variables that have been studied and was used in the reduction of the variables into five factors. It is important to note that variables loading above 0.50 were highlighted, named and discussed.

Presented in Table 7 are the variables that loaded on each factor. Thirteen variables are loaded strongly and positively on factor 1. These variables are cost of routine household maintenance, tools and equipment's (0.850), Fear of neighbourhood unrest or external influence (0.783), Cheap accommodation (0.717), Free accommodation in family house/ close to my family compound (0.704), Neighbourhood sense of belonging (0.699), Building Condition (0.683), Service charge (0.671), Number and size of bedrooms, toilet (0.656), cost of acquiring rental property (0.612), Multiple source of income (0.565), service provided (0.540), price of housing unit (0.540), level of income (0.539), proximity to place of work (0.528). This loading pattern could be termed household income expenditure and building services.

Secondly, the determinants of housing affordability in the second column have ninth (9) variables that load highly on it. These variables are change in household/non housing related expenses (0.840), availability of credit facilities (0.839), proximity to place of work/worship (0.740), interest on credit facilities (0.735), quality of environment (0.634), individual savings (0.596), and availability of open spaces/parking spaces /health centre (0.592). These variables suggest relationships could hereby be termed Neighbourhood factors. Also, in the third column, the variables that load highly are: availability of services (0.858), availability of infrastructure (0.835), and proximity to transport route (0.705). This loading pattern could be termed 'infrastructure and services.

Table 7: Rotated component matrix (a) of housing affordability in Ikorodu

S/N	Variables	Components		
		1	2	3
1	Availability of credit facilities	.850		
2	Fear of neighbourhood unrest or external influence	.783		
3	Cheap accommodation	.717		
4	Free accommodation in Family house/ close to my Family compound	.704		
5	Neighbourhood sense of belonging	.699		
6	Interest on loan/debt payment	.683		
7	Service charge (waste collection, security)	.671		
8	Number and Size of bedrooms, toilets	.656		
9	Cost of acquiring rental property	.612		
10	Multiple sources of income	.565		
11	Service provided (water supply, electricity facility)	.540		
12	Price of Housing unit	.540		
13	Level of income	.539		
14	Proximity to transport route	.528		
15	Size of household		.840	
16	Change in household/non housing related expenses		.839	
17	Cost for routine household maintenance, tools and equipment		.740	
18	Proximity to place of work/ worship		.735	
19	Building Condition		.634	
20	Quality of environment		.596	
21	Individual savings		.592	
22	Availability of open spaces/ Parking spaces/ health centre		.562	

23	Level of privacy	.538	
24	Age of building	.506	
25	Availability of services		.858
26	Availability of infrastructure		.835
27	Proximity to place of work		.705

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

It was deduced from the study that housing accommodation in the four rental categories examined in this study exist in various neighbourhoods in Ikorodu Local Government Area of Lagos State. Although, the core area is associated with higher level of economic activities, which presumably promote higher land values in the area relative to the sub-urban and transition areas, nonetheless, low rental values accommodation is still a common feature in the core area. Perhaps, the low rental value accommodation in the core area could be existing majorly in old buildings, as it would be uneconomical to undertake low-income housing in such a prime location in a private developers driven property market as obtains in the study area. This finding suggests availability of matured redevelopment sites in the core area in Ikorodu and real estate developers can tap into this researched information for commercial benefits and improvement of the urban landscape. Existence of high rental value accommodations of N150001 and above per annum) in all the zones indicates availability of residential real estate investment opportunity for visionary investors as land value in the transition area is relatively lower than in other locations.

This study also found that on the average 55.9% of the respondents spend more than 30 per cent of their income on housing. Moreover, the income – to – rent ratio situation is even worse in the core and sub-urban areas where 60.3% and 65.5% of respondents are respectively spending more than 30% of their income on rent. Furthermore, this study found that a vast majority of the respondents spend amounts in excess of maximum benchmark of 30% of income on rent; hence the study established that housing affordability challenges exist in Ikorodu Local Government Area, Lagos State, Nigeria.

This study equally revealed that housing maintenance cost, proximity to transport route, and non-housing related expenses borne by household together explain about 59.7% of housing affordability challenges in Ikorodu area. By implication, the finding suggests existence of further research opportunity in this area of peri-urban housing studies both in this study area and similar neighbourhoods in Lagos State, Nigeria.

CONCLUSION

Following from the findings, it can be concluded that there is high level of housing affordability challenges in Ikorodu Local Government Area of Lagos State, Nigeria. This implies that a vast majority of households in the study area lack economic resources for other family necessities such as food, clothing, education, transportation, medical, water, and power bills and so on, after spending over 30% of their income on house rent.

RECOMMENDATIONS

Recommendations arising from the findings of this study are as follows: real estate developers are encouraged to explore opportunities for real investment redevelopment schemes in Ikorodu core area for profitability, improvement of the urban landscape in Ikorodu with better housing designs, and promotion of the state local gross domestic product (GDP) and by extension the national GDP too, visionary residential real estate investors should tap the investment opportunity available in high rental value accommodations of N150001 and above in the transition area with relative low land values than in other locations, as house rent is significantly influenced by the forces of demand and supply, government intervention in housing delivery in Ikorodu will increase the supply and mitigate housing affordability challenges be pushing down the rent, it is further recommended that housing scholars should aspire to explore further research opportunity in examining other factors that account for the unexplained 39.3% of the variances.

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