Original Research Article

The Influence of Socio-economic Factors on Affordability of Public Housing Units in Kano Metropolis, Nigeria

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Abstract

The paper examines the influence of socio-economic status of Households on affordability of public sector housing units in Kano metropolis. A total of 1,635 housing units were the target population purposively chosen from Danladi Nasidi, Zawaciki, Jido and Wailari housing estates. Using population proportionate sample size (PPS), 314 households were determined as the sample size while the respondents were selected using simple random sampling technique (SRS). Structured interviews and self-administered questionnaires were employed for the data collection. A total of 314 copies of the questionnaire were distributed with a response rate of 99.4% (312). The data was analyzed using descriptive and inferential statistical techniques with assistance of Statistical Package for Social Sciences (SPSS) software. The result shows households have different socioeconomic attributes, which have major influences on housing affordability. Respondents with higher socio-economic status in the society stand better chances of affording public sector housing units. The analysis has shown that income level and social standing of respondents are the major factors that determine housing affordability among the respondents. The civil servants especially low-income earners and other working class households were found to have minimum chances of housing affordability, which was also influenced by limited or no savings after family expenditures. Consequently, majority of the respondents are tenants in the public housing units. Therefore, the paper recommends a review of the method of disposing the housing units and the introduction of mortgage system that is readily accessible and easily affordable to households. It is also important for the government to make the building materials cheaper and affordable so as to enable people to meet their housing demands without falling into housing affordability problems.
Keywords: Housing Estates, Affordability, Low-income earners, Mortgage system, Kano metropolis.

INTRODUCTION

Housing affordability is a worldwide phenomenon related to ability of households to own or have access to decent housing accommodation. Decent housing accommodation influences the socioeconomic stability of the family in particular and the community at large. Housing affordability has been described as the challenge that a household faces in balancing the cost of its actual or potential housing on the one hand and its non-housing expenditures on the other, within the constraints of its income [1]. Nicholas [2] noted that affordable housing comprises not only the cost of housing but also the housing standard, the environmental factors as well as the cost of mortgage. Housing affordability thus refers to the ability of a household to acquire housing that meets socially acceptable norms within the limit of its income without falling into poverty. This definition seems to agree with

that of Milligan and Gilmour [3] who opined that affordable housing is that housing that is either purchased or provided at a rent that does not exceed a 'designated standard' of affordability. In other words, the housing should be provided at a cost that does not exceed a certain fixed proportion of the income of the household and should be able to enable the household to meet its other basic needs after paying for the housing cost.

According to Stone [1] affordable housing has meaning only if it answers the following essential questions; affordable to whom? On what standard of affordability? For how long? Furthermore, the level of housing affordability relates to socioeconomic status of the household and the government's determination to make housing accessible. Thus, affordability is usually influenced by the income of the household, the family size, the housing expenditure, as well as the

Government Housing Policy. Lau [4] identified three basic approaches for measuring the rate of housing affordability to any given household namely; normative, behavioral and subjective approaches. Normative approach is the most developed of all the approaches because it encompasses different measuring strategies including rent-to-income ratio (RIR), mortgage-to-income ratio (MIR) and house price-to-income ratio (PIR). These put the household's income as a principal factor that determines housing affordability. Furthermore, one of the conventional indicators of housing affordability identified by the United State Housing and Urban Development (HUD) is that the housing expenditure should not exceed 30 percent of the household's annual income (i.e. 2.5% of monthly income) which is the bench mark that household could spend and still have enough left over for other nondiscretionary spending within the limit of its income. Failure to meet this, a household could have a housing cost burden (i.e. > 30 - 49.9%) or severe housing cost burden (i.e. >50%). According to Onu and Onu [5] besides the role of income towards housing affordability, government on the other hand has numerous ways through which it influences the rate of affordability of housing which includes land use law, price control mechanism as well as financial policies like interest rate and foreign exchange rates.

The National Housing Policy in Nigeria classified low-income groups as those wage earners or self-employed people who earn five thousands naira (N5000) and below (as of 1988) or those whose annual income is twenty percent below the maximum annual income of the highest salary grade level in the civil service structure at any given time [6]. In their study of the effects of Household's socio-economic conditions on crowding in government built apartments in Lagos, Adebayo and Iweka [6] adopted a monthly income of N45, 000 and below for the low-income, above N45, 000 and below N100, 000 for the medium-income group and above N100, 000 for the high-income category. This paper equally adopts this classification for its analysis.

According to Stephen [7], gender, age, educational levels, employment, number of families and total inhabitants residing in a household are the key demographic characteristics of house-ownership or tenancy in different residential areas of his study. He added that these characteristics influence housing acquisition and even the application processes for housing provision among the low-income groups. Household income is an important factor in measuring housing affordability although in many cases it does not relates to increase in housing and building materials cost. For this, Ayedun and Oluwatobi [8], opined that as the cost of various building materials are increasing at alarming rate, the salary of workers particularly in the public sector remains constant for a long period before another salary and wages review, which never

corresponds with inflationary trends in the building sector.

Mortgage system has been one of the most reliable methods households can access and afford a housing unit especially in developed countries of Europe and North America. The method has gradually been receiving attention among the developing countries especially in the urban centers. However, the level, source and sustainability of the household's income affect the terms, size, cost, collateral requirement and repayment method of the mortgage. Nicholas [2] noted that to ensure affordability of the mortgage entered by households, the loan obligation must not be in a form that will deny the households other basic family needs and necessities. He further found out that in Kumasi and Tamale most of the households cannot afford the rental apartments and owner occupier units because a household has to save its entire annual income for at least 31 to 39 years in order to acquire its own housing unit.

In Kano State northwest Nigeria, the government has over the years provided public housing units through the construction of many Housing Estates within the metropolitan area. However, a cursory look at most of the estates has shown that not everybody wishing to have access to the housing units find them affordable. Majority of the households belong to certain socio-economic groups mostly it is the middle and higher socio-economic groups that predominantly have access to the housing units. Households that fall under the lower socio-economic groups are not often predominantly found in the estates. This paper intends to find out the effects of socio-economic status of the households on affordability of public housing units in the metropolis.

STUDY AREA
The study area is Kano Metropolis, and is the administrative capital of Kano State, northwest Nigeria (Figure-1). The State is located at a distance of about 840km from the southern fringes of the great Sahara Desert [9]. Kano State lies between latitudes $11^{0}52^{1}$N to $12^{0}80^{1}$N and longitudes $8^{0}22.5^{1}$E to $8^{0}40^{1}$E at an altitude of 1549ft above sea level. Kano metropolitan area covers a radius of about 60sq km and the built environment occupies an area of about 48sq km [10]. It is made up of eight local government areas including Dala, Fagge, Gwale, Kumbotso, Municipal, Nassarawa, Tarauni, and Ungogo. Kano City is one of the fastest growing cities in Nigeria and the largest in the whole of the Northern part of the country. Demographically the State had a population of 5,810,340 people in 1991, out of which the Metropolis accounts for 1,432,255 people representing 24.3% of the total population of the state [11]. However according to 2006 population census, Kano state had 9,383,683 out of which the Metropolis accounted for 2,165,223 people [12]. The current

estimated population of the State is put at a little over 11,000,000 people as of the year 2018.

The climate of Kano is a typical wet and dry climate with the mean annual rainfall of about 897.7mm and maximum and minimum values are 1872mm and 419.6mm respectively [13]. About 40 percent of the annual rainfall is usually received in the month of August. Kano is known as the center of commerce and it enjoys relative peace and tranquility and accepts inhabitants of other different cultures and beliefs, which enhances the status of the city as a great trading, commercial and industrial nucleus. The city began its commercial prowess with the trans-Saharan trade for which it served as a major entre-port producing powerful merchant class that maintained extensive external link as far back as 1850 [14]. According to Gambo [15] the commercial activities got boosted in the post-colonial period producing major markets and industrial estates including; Bompai, Sharada, Chalawa and Gunduwawa. These developments led to expansion of the built environment resulting in construction of different housing estates and residential infrastructure in the metropolis.
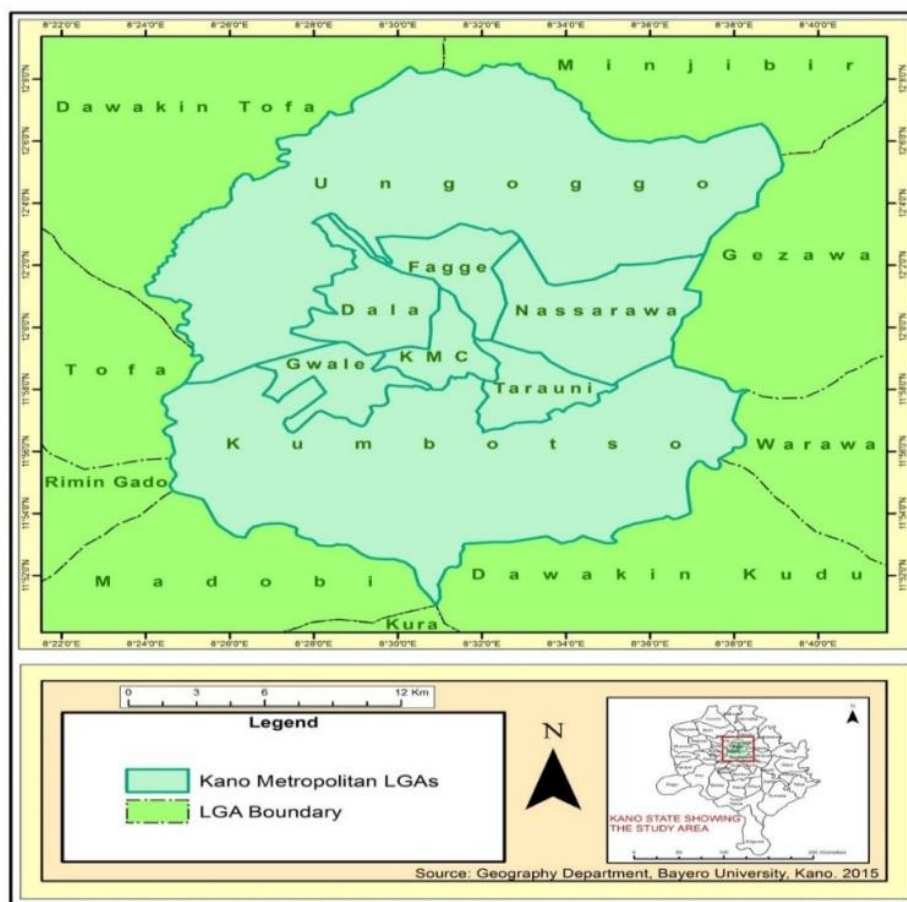

Fig-1: Kano Metropolitan Area

MATERIALS AND METHOD
Data Collection
The primary data was collected mainly from four housing estates namely; Danladi Nasidi, Jido, Wailari and Zawaciki all within Kano metropolis. Households were selected to respond to a questionnaire instrument purposively designed to generate the data for the study. Equally, interviews were also conducted with some top-ranking government officials in the relevant ministries, agencies and government departments. Secondary data were obtained from the existing literature and from official government records. Data on the existing government Housing Estates in the study area, the number of units in each estate, tenure of the occupants and property values were all collected from these sources. A total of 314 households participated in the study from the four estates; the head of each household was identified and administered with Questionnaires. The questionnaire focused on the socioeconomic attributes of the households such as housing type, housing expenditure and housing tenure.

Sampling Technique
A multistage sampling technique was employed where purposive sampling method was used in the selection of the housing estates. This takes into consideration the age of the estates; for example Ja'oji, Sabon Gari, Tarauni, Kundila, Zoo Road, Gwammaja and Sabo Garba Housing estates were the oldest built by the state government. Most of the housing units in these estates were already sold to the occupants while

those at Umarawa, Kwankwasiyya, Amana and Bandirawo housing estates were relatively new and have not been fully occupied. Therefore, four housing estates were purposively selected namely: Danladi Nasidi, Jido, Wailari and Zawaciki because they are not old and are not among the recently constructed ones. Furthermore, they were developed for the low and middle-income groups and the units are fully occupied.

Although the State has a total of Fourteen Housing Estates within the Metropolis, the total number of housing units put together is 6,896. The four sampled housing estates mentioned above jointly account for

1635 housing units out of which 314 household were selected as sample size for the research using Krijcie and Morgan [16]. Furthermore, the number of the respondents in each of the selected Housing Estates was determined using Population Proportionate Sample Size (PPS). At the next stage, the households' respondents to the questionnaire in each of the estates were chosen using Simple Random Sampling (SRS) technique. This ensures that each and every household has equal chances of being chosen to participate in the study. The distribution of the questionnaire respondents as spread across the study sites is presented on Table-1.

Table-1: Sample Size by Housing Estate

Housing estate	Number of houses	Sampling size using Probability Proportionate Sample size
Danladi Nasidi	1301	249
Zawaciki	212	41
Jido	76	15
Wailari	46	9
Total	**1635**	**314**

Source: Kano state Housing Cooperation (2015).

Furthermore, structured interviews were also conducted with some high ranking government officials in some of the identified relevant ministries and government departments namely; Ministry of Land and Physical Planning, the State Housing Corporation and Kano State Investments and Properties Limited (KSIP). The data collected from these interviews were based on

policy issues on state housing programs, the role of government towards public housing development in the state as well as other related data such as housing statistics etc. In each of these government departments and agencies, one official was interviewed as presented on Table-2.

Table-2: Government Agencies Interviewed

Organisations	Number of staff interviewed
Ministry of Land and Physical Planning,	1
The State Housing Corporation	1
Kano State Investments and Properties (KSIP)	1
Total	**3**

Source: Field work 2016

Method of Data Analysis and Presentation
The data for this work, was analyzed using Pearson Chi-square after a Cross tabulation to observe the difference among the households in the different Housing estates in respect of the socio-economic attributes of households that influence public sector housing affordability, which includes households' occupation, housing tenure, households 'monthly income and housing expenditure.

RESULT AND DISCUSSION
The data presentation focuses on the socioeconomic characteristics of the households including age, gender, marital status, family size, educational status, occupation, location of place of work, monthly income, housing expenditure and monthly rent paid by the tenants, which were analyzed for the purpose of identifying the similarities and differences among the housing estates in the study area.

The hypothesis the paper tested states that households in the study area have similar socio-economic factors that determine their housing affordability. Thus, different variables were cross tabulated and the Pearson Chi-square test was used to find out the differences between the respondents in order to determine housing affordability among the households.

The data analysis has shown that the age of the respondents range from 18 to above 50 years (Figure-1). Households in the age bracket of 31-40 years account for 50% of the respondents, 41-50 years account for 34.6%, 18-30 years have 11.9 % while those above 50 years have only 3.8%. This is almost what was obtained with each of the Housing Estates analyzed separately; where those within the age group of 31-40 years have the highest percentage in Danladi Nasidi, Zawaciki and Jido Housing Estates. It is only in Wailari Housing estate where respondents within age bracket of above 50 years has 62.5%.
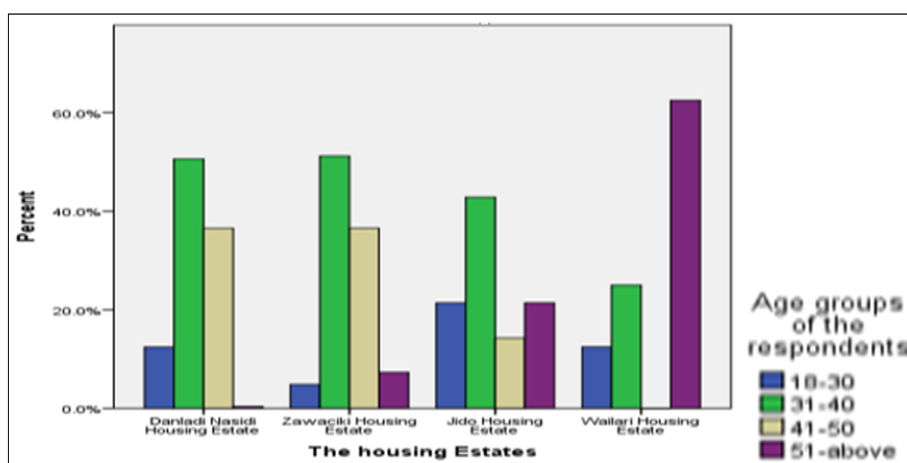
Fig-1: Respondents' Age distribution

Majority of the respondents (97.4%) are male and only 2.6% are female and the female respondents were all found in Zawaciki Housing Estate. The male domination among the respondents is not surprising because the society is purely patriarchal. The marital status of the respondents has shown that 98.1% are married, 1.3% is single and 0.6% is widows. When the marital status was analyzed across individual estates, Danladi Nasidi and Jido Housing Estates each has 100% married respondent while Zawaciki has 87.8% and Wailari Housing Estate has 87.5%.

The family size is another important determinant of home ownership which affects housing expenditure. It is believed that the larger the family size, the higher the amount of housing expenditure, which reduces the per-capita expenditure of the family, thus aggravating poverty. The data analysis has shown that the family size of the respondents ranges from 2 to 15 members. Figure-2 indicates that majority of the respondents have small family size (i.e. 2-5 members) with 71.3%. This group is the dominant group having a larger proportion in three of the estates including Danladi Nasidi, Zawaciki, and Jido. Wailari has the highest concentration of families with 15 and above members which accounts for almost 43% of the respondents. This is not surprising considering the fact that many of the households in Wailari housing estate were older and most of them are retired civil servants, Business men and farmers.
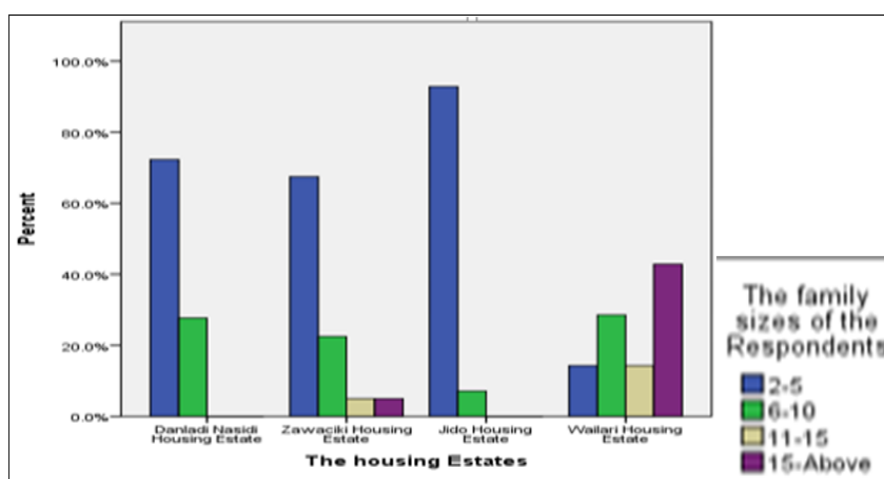

Fig-2: Respondents' Family Size

The data for educational status of the respondents revealed that all the respondents have attended schools at various levels ranging from non-formal, primary, secondary and tertiary. The analysis shows that majority (97.1%) of the respondents has tertiary level of educations (i.e. combined) and only 1.9% is having either primary or secondary schools leaving certificates. It was found that majority (56.1%) of the respondents is graduates and this group has the highest percentage in three of the study sites namely; Danladi Nasidi, Zawaciki and Jido. But when the Estates were analyzed separately, Jido Housing Estate has the highest number of graduates with 78.6% followed by Danladi Nasidi with 58.6%, Zawaciki has

39.0% and Wailari has 25.0%. The data has however shown that Wailari has 100% of the homeowners among the Estates. This shows that educational qualification has less influence over housing affordability because people with low level of education but additional sources of income which supplements their housing expenses, were able to afford the housing units.

The data further shows that majority (67%) of the households are civil servants, 5.4% are farmers, 1.0% are retired civil servants, 21.8% are into various businesses, 4.2% work with companies, and 0.6% are unemployed. Individually, Jido Housing Estate has the highest number of civil servants with 71.4%, Danladi

Nasidi and Zawaciki Housing Estates have 68.3% civil servants each and Wailari has 12.5% civil servants.

The household occupation is believed to be the main source of income for that family, influences housing affordability. In the light of that, the data analysis further looks into the relationship between occupation of the respondents and housing tenure. Thus, the two variables were cross tabulated and the result is presented on Table-3. It shows a high concentration of tenants among Civil Servants in all the Estates with 82.7% while only 10.4% of respondents who are into various Businesses are tenants. This means that many of the households who are civil servants and have no other sources of income do experience housing affordability problem.

Table-3: Result of Cross tabulation Occupations by Housing tenure

Occupation	Tenants		owners		Total	
	freq	%	freq	%	freq	%
Civil service	172	82.7	36	17.3	208	100
Farming	0	0.0	17	100	17	100
Business	7	10.4	60	89.6	67	100
Company	0	0.0	13	100	13	100
Retired	0	0.0	3	100	3	100
Unemployed	0	0.0	1	100	1	100
Total	179	57.9	130	42.1	309	100

Source: field work, 2016

Furthermore, to determine whether the relationship is significant or otherwise, a chi-square test was used and it shows (Table-4) that the computed chi-square value is greater than the critical value (161.130 > 11.7) with the corresponding (df = 5), and p-value

(0.00) which is much lower than 0.05. The result therefore shows that there is a significant difference between the households' occupation and housing tenure of respondents.

Table-4: Pearson Chi-square test for occupations and Housing tenure

X^2	Df	Asymp. Sig. (2 sided)	Exact Sig. (2-sided)	Exact Sig.(1-sided)	Decision
161.130	5	.000	.000		Significant

Source: field work, 2016

The influence of income on housing affordability

Household income is generally acclaimed to be the most important factor that influences housing affordability in both developing and developed countries of the world. This is much apparent among the newly urbanizing societies where poverty has gradually become a feature of the process of urbanization. In most of these societies, households are struggling to meet housing expenditure and offset other family essential needs. Income plays an important role in measuring housing affordability especially among workers in the public sector whose wages over the years has been at far with inflationary trends in the markets especially for the building materials [8].

The data analysis has shown that a large proportion of the household respondents (54.2%) fall

within the middle-income groups (i.e. those earning N45, 000 - N100, 000.00 only). This is followed by the low-income group with 24.7% and the high-income group has 21.1%. Income does not depend solely on a household's monthly salary, it includes other sources of which a household uses to finance housing expenditures and save towards housing ownership. Figure 3 below indicates that majority (54.3%) of the respondents did not have any other source of income besides their monthly salaries while about 45.8% attest to having an additional source of income; such as farming, handcraft, business, trading etc. Respondents who have no additional source of income are presumed to have a housing cost burden (because they will end up spending more than 30% of their monthly income on housing expenditure and other unforeseen circumstances), which affects their housing affordability.
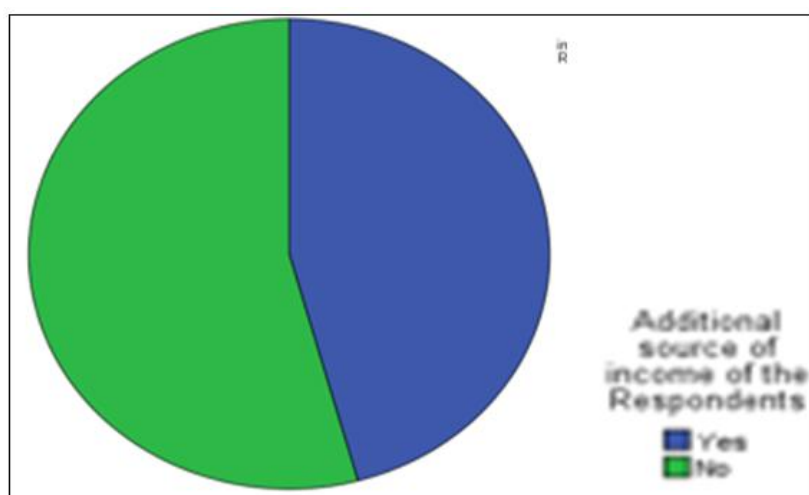
Fig-3: Responses of Households on additional source(s) of income
Source: Field work, 2016

Respondents' Housing Expenditure

According to Zilfirhan & Arffian [17] housing expenditures are all expenditures either in cash or credit by a household on goods and services for personal or family uses such as food, clothing, entertainments, transportation, loan repayment for cars, housings and personal loans and savings. Stone [1] further noted that this should not consume more than 30 percent of the household's monthly income. The data analysis has however, revealed that in the study area majority of the households who fall under the middle and low-income categories are spending more than the 30% of their monthly income on housing expenditure as presented on (Table-5), which cross tabulates monthly income with housing expenditure.

Table-5: Cross Tabulation Income by Housing Expenditure

Housing Expenditure	Less than N45,000		N45,000-N100,000		More than N100,000		Total	
	freq	%	freq	%	freq	%	freq	%
Below 13,500	18	24.7	2	1.2	0	0.0	20	6.6
13,550-30,000	47	64.4	21	12.6	0	0.0	68	22.3
Above 30,000	8	11.0	144	86.2	65	100	217	71.1
Total	73	100	167	100	65	100	305	100

Source: Field work, 2016.

A chi-square test (Table-6) further shows a significant relationship between income and housing expenditures with the chi-square value of (177.734 > 9.49), corresponding (df = 4), and p-value 0.00.

Table-6: Pearson Chi square test for Income and Housing Expenditure

X^2	Df	Asymp. Sig. (2 sided)	Exact Sig. (2-sided)	Exact Sig.(1-sided)	Decision
177.734	4	.000	.000		Significant

Source: Field work, 2016.

The above findings are further confirmed by the result of a cross tabulation of the monthly income with housing tenure as presented on Table-7. It shows that as the household income increases, the percentage of households who are tenants' decreases. This means housing affordability problem is becoming common among households that fall under the low-income to middle-income groups. This finding corroborates with that of Nnamdi and Nwakanma [22] who noted that the chances of affording a house in urban areas of Nigeria by public workers can be possible for senior staff who are on higher salary grade levels and only probable or unaffordable for the middle and low-income staff.

Table-7: Result of Cross tabulation Households' income groups and the Housing Tenure

Housing tenure	Less than N45,000		N45,000-N100000		More than N100,000		Total	
	freq	%	freq	%	Freq	%	freq	%
Tenant	71	93.4	103	62.8	4	6.2	178	58.4
Owner	5	6.6	61	37.2	61	93.8	127	41.6
Total	76	100	164	100	65	100	305	100

Source: field work, 2016

Equally the result of the chi-square test shows that the computed chi-square value is greater than the critical value (112.679 > 5.99) with the corresponding (df = 2), and a p - value of 0.00 is much lower than 0.05. This means there is a significant relationship between income groups and housing affordability.

Another important consideration that indirectly influences housing affordability is the location of households' residential area in relation to place of work and other essential services like market, hospital, children's school etc. This often affects household's chances of housing affordability due to increased family expenditure related to transport cost or fuelling expenses when the household resides far away from their place of work and other services. The data in this study has shown that majority of the respondents (50.2%) in the study sites put together work within the metropolitan area, 19.1% work at places close by their residential areas, 19.4% work in local governments outside the metropolis while 11.4% work outside the state.

However, the data analysis in each of the estate separately shows that 22.1% of respondents in Danladi Nasidi and 5.4% in Zawaciki have their residences close to where they work while those working in local governments outside the metropolis have 20.5% and 18.9% respectively. The proportion of respondents working within the metropolis from all the estates is higher; for example in Jido 72.7%, Zawaciki 70.3%, Wailari 50.0% and Danladi Nasidi 46.2%. Households residing in Danladi Nasidi and Jido usually cover longer distances to the Central Business District (CBD) compared to those in Zawaciki and Wailari. This affects the residual income of the households which may have influenced why they have the highest percentage of tenants among the estates under study.

To determine whether there is any serious relationship between distance of household's place of work and their housing tenure, a cross tabulation was carried out and the result indicates that distance to work place has little influence over housing tenure. The data shows that households working in local governments outside the metropolis and even in other states have high rates of home ownership with 94.8% and 91.2% respectively. Majority of the respondents working nearby their residences and within the metropolitan area are tenants with 96.5% and 75.8 % respectively (Table-8).

Table-8: Cross tabulation between Households' Work place and their Housing Tenure

Work place location	Tenants		Owners		Total	
	Freq	%	Freq	%	freq	%
Near by	55	96.5	2	3.5	57	100
Within metropolis	113	75.8	36	24.2	149	100
Other local governments	3	5.2	55	94.8	58	100
Other states	3	8.8	31	91.2	34	100
Total	174	58.4	124	41.6	298	100

Source: Field work, 2016.

The Pearson Chi-square test found that the calculated chi-square value is greater than the critical value (154.719 > 7.82) with the corresponding (df = 3), the p -value of 0.00 is much lower than 0.05. This shows a statistically significant difference between the work place of the respondents and their housing affordability. Thus the null hypothesis is to be rejected in favour of the alternative hypothesis.

Therefore, considering the data presented so far on the socio-economic features of the respondents, the paper found out that while majority (97.4%) of the respondents are male, of 31 to 40 years of age, married (98.1%) and with smaller families, are therefore expected to have lower housing expenditure and higher chances of housing affordability. However, the findings indicate that many (71.2%) of the respondents spent more than 30% of their income on housing expenditure which makes them experience housing cost burden. This is because a large proportion (54.2%) of them is middle-income earners who solely depend on their monthly salaries, consequently about 57.9% of them are tenants. Furthermore, the result also shows that a good number of the respondents have acquired education at different levels with 56.1% being graduates; this has not really had significant influence on their level of housing affordability. This finding does not concur with that of Chung [18] who argued that better education enables people to find good jobs with more stable and higher income that enables them to meet their immediate needs. The argument of Ayedun and Oluwatobi [8] that the salary of workers particularly those in public sector does not correspond with the increase in the cost of building materials, may be an explanation that agrees with the findings of this paper. Similarly, it is in line with Chang [19] who noted that the growth in income is relatively gradual and appears to be unable to catch up with the increase in housing prices. Therefore workers have to spend a reasonable number of years in service before they could be able to generate the necessary savings to enable them acquire a residential accommodation.

The paper has been able to show that income and social status are two important attributes of households that influence housing affordability in the four housing estates of the study area. The households with higher income and less housing expenditures have better opportunities of housing affordability. This corresponds with the statement of Delgadillo and Jewkes [20], that a household spending more than 30% of his gross income on total housing cost, including principal and interest payments on the mortgage, property taxes, utilities (i.e. electricity, gas, water and sewer) and insurance are going to have a housing cost burden. Although Raphael and Quigley [21] argued that income can be misleading measure of housing affordability in which many retirees have low annual income, but still own their homes. Other attributes of social status such as occupation, family size, level of education and residential neighbourhood have its influence on the ability of the households to acquire residential accommodation among the respondents.

Therefore, considering the aforementioned explanations on the socioeconomic variables of housing affordability, it is clear that the households in the study sites have different socioeconomic features that determine their housing affordability. Therefore, the null hypothesis is to be rejected in favour of the alternative hypothesis which states that the households in the study area have different socioeconomic determinants of housing affordability.

CONCLUSION

The paper examines the socioeconomic features that influence housing affordability in the public sector housing estates of Kano metropolis. The data was collected using a survey method where 314 copies of questionnaire were administered to selected respondents from Danladi Nasidi, Zawaciki, Jido and Wailari Housing Estates. The four estates were purposively sampled to provide the required data based on certain parameters that include the age of the estate, the nature of tenure of households and the location of the estates within the metropolitan area. The data collected include monthly income, family size, monthly housing expenditure, rent payment, age, educational status and occupation of the respondents. The paper found out that the households in the different housing estates have different socioeconomic attributes that determine housing affordability.

A result of Logistic regression analysis between the three main independent variables of the housing affordability revealed that the predictors including monthly income, housing expenditure and housing type contributed significantly to the model, implying that these variables have lot of influence upon the housing affordability level in the study area. Therefore, considering the findings in the whole study area, it shows that the level of public housing affordability is generally low, due to the fact that a large number of the households live on rent. The affordability level is high only to the high-income earners in all the study sites. The paper also found out that majority of the respondents are civil servants, who are mostly middle-income earners (i.e. earning N45, 000 -N100, 000 per month) and they spend over N30, 000 on housing expenditure. These is more than one third of their monthly income, and are paying over N10, 000 per month as rent, which pulls them in to housing cost burden. The research found that housing affordability varies between the housing estates, for example in Danladi Nasidi, due to the fact that many of the households are middle-income earners with high rate of housing expenditure coupled with the distance from CBD, majority (60.2%) of the households are tenants, unable to afford their houses with only 39.8% home ownership.

In Jido Housing Estate, there are more tenants than any other housing estates under study, which is because 75% of the households are low-income earners and majority (42.9%) spend more than N30, 000 on monthly housing expenditure, they pay rent of over N10, 000 per month and incur high transport cost due to distance away from the city center. Consequently, 78.6% of the households are tenants while home-owners are only 21.4%. On the other hand, the data in Zawaciki Housing Estate shows a high affordability rate among the respondents (more home owners than tenants). This high affordability rate may have been contributed by the lower prices of the housing units in the estate compared to that of Jido and Danladi Nasidi. Furthermore, considering the distances from the CBD, this estate is relatively closer and households will therefore not require higher transportation cost and so may generate more savings toward housing cost. On the other hand, Wailari Housing Estate is geographically situated at more disadvantaged location away from the CBD; homeownership here is 100% among the respondents. It has relatively higher cost of housing units and majority of the households are middle-income earners.

RECOMMENDATIONS

Based on the findings of the paper as presented earlier, the following recommendations are proposed with a view to increase the level of housing affordability among households occupying Public Sector Housing Units in Kano Metropolis.

- Government should embrace the mortgage system of housing acquisition and reduce the amount requested as down payment for the housing units in all its Estates. When this is done, it is anticipated that it will raise the socio-economic status of most of the tenants in the housing estates.
- Equally, the government should spread the repayment period over a long period to enable the low and middle-income earners afford the housing units with ease.

- Government should introduce subsidy on imported building materials with a view to cushion the cost of building new housing units in the state at large and the metropolis in particular.
- Government should encourage the use of locally sourced building materials in the construction of new housing estates in order to produce readily accessible and affordable housing units to all categories of income earners.
- The review of income and wages in both the public and private sectors is long overdue, this should be reviewed upward commensurate to the market forces operating in the nation's economy. This will make it possible for households to meet their housing expenditures without falling into housing cost burden.

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