Residential Satisfaction and Housing Transformation in Tunga Low-Cost Estate, Minna, Nigeria

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ABSTRACT
Housing is an essential tool by which most individuals measure the quality of life. This study assesses the level of residents' satisfaction in Tunga low-cost estate, Minna, Niger State with a view to suggest strategies to improve residents' quality of life having examined housing conditions and adequacy of existing infrastructure. Residents' socio-economic characteristics and satisfaction of housing conditions were obtained from household heads of the 175 sampled housing units using structured questionnaires. Residents' assessments of their housing conditions and satisfaction of their housing were collected using a 5 point Likert scale ratings: Very Dissatisfied = 1, Dissatisfied =2, Undecided (Neutral) =3, Satisfied =4, Very satisfied =5 respectively The study reveals that the entire residents were fairly satisfied with the provision of facilities, utilities, services and infrastructure in the study. The data used for the study were from both primary and secondary data. A stratified and systematic random sampling was adopted as the technique for the study. Both descriptive and inferential statistics were used to analyze the data. It was discovered that residents of Tunga Low-Cost Housing Estate are dissatisfied with the existing condition of their housing units; thus, they involve in several kinds of alterations to the housing structures. Finally, the study recommends that both federal and state government should pay more attention to the rehabilitation of roads and drainages in public housing estates in the country and public housing developers should continue to improve the quality of dwelling units they construct in order to make the residents more satisfied with the units they occupy.

Keywords: Housing, Residential, Satisfaction, Modification, Transformation

INTRODUCTION
The provision of acceptable housing that meets government prearranged principles and standards of quality and users' needs, prospect and aspirations have always been the target of every public housing programme in Nigeria. The UN-HABITAT (2006), however, noted that in the past few decades, in spite of governments' laudable hard work, public housing has failed to attain this goal in the country. Housing was the most harrowing experience workers had to live with at the inception of the state. The demand for housing accommodation in the early part of the life of the state continued to remain high despite the numerous buildings put up by private individuals, while rents were also high in-spite of the rent control edict. The Tunga low-Cost Housing Estate comprises of 260 two bedrooms flats and 60 intermediate three bedrooms flats, while the Zarumai Housing Estate comprises of 27 three and four bedrooms senior staff quarters purchased from Northern Nigeria Development Company (NNDC). Another estate, Niger House Estate, at Shango, Minna, comprising of 35 executive houses of three and four bedrooms was also built.

The construction of low-cost housing estate in Tunga formed part of the Niger State government initiative to invest in the housing sector to ease the problem of the housing shortage in the state. This low-cost estate as at then was one of the largest residential neighborhoods in Minna and provided shelter for at least 380 families working within the public sector on the owner-occupier basis. Over the years residents have embarked on numerous alterations (modifications) to their flats in the form of physical changes to meet up with the growing number of the members of their families. This research will tend to discover the reasons responsible for all the building medications in Tunga low-cost.

Aim and Objectives
The aim of the study is to assess the level of residential satisfaction and building modification in Tunga housing low-cost Minna, Niger State. The objectives are to:
  i.   Assess the socio-economic characteristics of people in the study area
  ii.   Appraise the level of housing satisfaction in the study area
  iii. Determine the rate of housing modification and factors responsible.

The Study Area
The study area Tunga low-cost housing estate at Bosso Local Government area is located on longitude 9°09'59.99" N and latitude 6°40'00.00" E; its landmass covers about 72 km². The climate of Tunga lies within a region described as a tropical climate. The region is characterized by double rainfall maxima. The area has to mean annual precipitation of 1300mm. The rainy season commences most of the time in April and lasts till October, with fluctuations in the amount of rainfall received per year. The highest mean monthly rainfall in September with almost 300 mm. Temperature is uniformly high throughout the year reaching the peaks of 40°C (Feb./March) and 30°C (Nov./Dec.). The relative humidity could be as low as 14°.
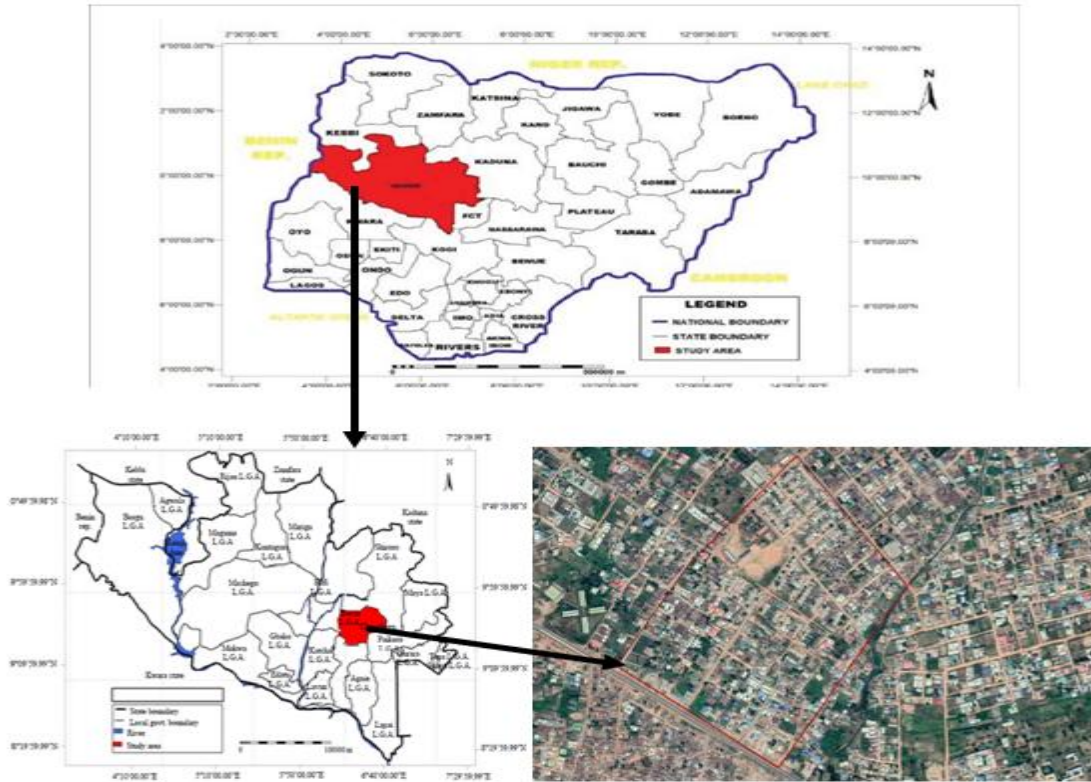
Figure 1: Location of the study area in Nigeria
Source: Authors' digitization and Google Earth, (2019)

LITERATURE REVIEW

Housing is essential for human existence as it is one of the top three needs of man. Its provision has always been of great necessity to human beings (Olotuah and Taiwo, 2013). Housing at different times has remained a strategic asset to people irrespective of their socio-economic status in society. As a unit of the environment, housing has profound influences on the health, efficiency, social behaviour, satisfaction and general welfare of the community (Olotuah, 1997; Osuide, 2004).

Residential satisfaction is an important indicator of housing quality and condition, which affects the individual's quality of life (Olatubara *et al.*, 2007; Dimuna, 2017). Housing satisfaction refers to the degree of contentment experienced by an individual or family with regard to the current housing situation (Djebarni and Al-Abed, 2000). In order to enhance the quality of life, promote greater community participation and social integration of the population, it is necessary to provide adequate, quality housing and well organized urban services.

Gbakeji (2014) has indicated that in order to satisfy residents, a residential environment must symbolize desirable aspects of the wider social society, since how much residential locations are identified with would depend on whether one's living space meets the social needs while reflecting and maintaining one's status. Virtually everyone tries to achieve as

satisfactory a residential environment as possible, subject to the constraints of class and life cycle.

Increasing interests are now shown towards the satisfaction of people with their housing and neighbourhoods. The variables or factors that are likely to influence residential satisfaction have been grouped into eight components. These include dwelling unit features or internal household attributes including ventilation of the house; dwelling unit support services or external household attributes such as corridors, staircase, balconies, drainage, electricity, sewerage, lifts, fire fighting system, and telecommunication; public facilities which constitute open space, playground, parking space, multipurpose hall, perimeter road, pedestrian walkways, local shops and food stalls (Mohit, Ibrahim, and Rashid, 2009; Jiboye, 2010). Furthermore, it has been argued by Mohit *et al.* (2009) that social environment attributes such as noise, crime, accident, security and community relations also affects the level of residents' satisfaction. Others include neighbourhood facilities or physical attributes which constitute town centres, schools, police station, hospital, distance to workplace or CBD, market, shopping centres, public library, religious building, bus and taxi stations (Mohit *et al.*, 2009). More so, personal or socio-economic characteristics such as age, level of education, level of the residence, gender composition, occupation of residents, family income, the layout of neighbourhood and tenure status (Jiboye, 2010).

Factors Affecting Residential Satisfaction
McCray and Day (1977), in their own opinion, see residential satisfaction as the amount of gratification experienced by human beings with regard to the existing housing condition. However, Satsangi and Kearns (1992) perceived housing satisfaction as a composite outlook. According to Ogu (2002), the concept of residential satisfaction is usually engaged to appraise residents' perceptions and thoughts for their housing units and the surrounding. There is substantial proof that shows that housing satisfaction is influenced by a wide range of objective and subjectively alleged circumstances (Theodori, 2001).

Housing condition in Nigeria is characterized by some inadequacies, which are either qualitative or quantitative in nature (NHP, 1991). According to Oladapo (2006), quantitative residential problems could be solved by increasing the number of obtainable housing stock while the qualitative inadequacies are massive and composite in nature. Ozdemir (2002), as cited in Oladapo (2006) measured and considered the qualitative setback as the foremost challenge of urban housing in Nigeria. If the housing sector is to get better, the quality of the residential buildings it produces most have to meet all the needs and expectations of its residents, and then takes a positive approach to understanding and consider what is being produced. This can be done efficiently and effectively through the assessment of the users' satisfaction on the quality presentation and performance of the residential houses.

Lu (2002) and Ibem and Amole (2012) identified age as an important indicator of residential satisfaction. In fact, Lu (2002) opined that the younger people are likely to be less contented with the condition of their housing than the elderly people. Salleh, Yosuf, Salleh, and Johari (2012) highlighted that this might be due to the fact the younger people have advanced prospects and aspirations than the elderly people. The Income level has also been recognized as having an affirmative effect on residential satisfaction. The research by Lu (1999) indicates that people that earn higher are more likely to be satisfied with the condition of their housing than those of lower-income groups because the former has a strong economic base to acquire affordable houses.

METHODOLOGY

Required data were from primary and secondary sources. Primary data sources refer to data collected by the researcher from the field. Data from this source is also known as raw data as is has not undergone any form of analysis. The data for this research was gotten through the use of direct observation and housing surveys. In view of acquiring data relevant to this research, housing surveys were conducted within the study area in order to ascertain the existing situation in terms of residents' satisfaction, level of modification, existing infrastructure, among others. All these added up to the primary sources of data for the study.

Secondary data source are data already collected, processed, analyzed and sometimes interpreted and reconstructed by other researches, figures, and charts. These data included information from Housing cooperation Minna Niger state, were the layout Maps for Tunga low-cost estate were obtained. Details of the road network and the number of streets were derived through the analysis of the satellites Google Earth maps, secondary sources of data can be obtained from textbooks, journals, publications, extracts from newspapers and internet sources to shed needed light on the subject matter of this research.

The sampling size was derived using Krejcie and Morgan's (1970) table, 175 households were sampled out of the 320 households in the study area. However, only 100 questionnaires were successfully retrieved and used for this study. Descriptive and inferential techniques of data analysis are adopted for the study. Statistical Package for Social Sciences (SPSS) is used for the analysis of the collected data.

DATA ANALYSIS
Socioeconomic Characteristics of the Residents of Tunga Estate

Table 1 shows that 82% of the household heads were male while 18% were female; this implies the most of the household heads were of male gender in the study area. This is in line with the findings of Bammeke (2010) that female household headship in Nigeria is a rare role. It was also discovered that 90% of the respondents were married, 5% were single. However, 3% and 2% were separated and divorce respectively. The dominance of married residents in the estate implies that the majority of the housing units are inhabited

by families. This indicates that the social needs and aspirations of the residents of the estate will be high. Most of the household head were found to be literate with a minimum qualification of OND and the maximum of HND which represents 47% and 2% respectively; it indicates that there were fewer illiterates in the study area.

Residents of Tunga Estate were also found to be considerably employed in the formal sector as 50% of the respondents were civil servants, 42% were traders, 5% were Artisans and only 1% were engaged in farming activities; this is an indication that civil servants occupy most of the housing units in the study area. Furthermore, as Table 1 indicates, it was found that 49% of the household heads earn above ₦46,000, 31% earn between ₦41,000 – ₦45,000, 12% earn between ₦36,000 – ₦40,000 and only 3% of the household heads earn less than ₦30,000 naira which is the recommended (and recently approved) minimum wage in the country. This implies that the majority of the household heads in Tunga estate are middle-income earners.

Table 1: Socioeconomic characteristics of the residents

	Frequency	%
Gender		
Female	31	31
Male	69	69
Marital Status		
Single	5	5
Married	90	90
Divorced	2	2
Separated	3	3
Educational Qualification		
OND	2	2
NCE	18	18
HND	47	47
BSc	13	13
MSc	18	18
PhD	2	2
Occupation		
Artisan	5	5
Civil servant	50	50
Farming	1	1
Trader	42	42
Others	2	2
Monthly Income (₦)		
<30,000	3	3
31,000 – 35,000	5	5
36,000 – 40,000	12	12

41,000 – 45,000	31	31
46,000 and above	49	49

Source: Authors Field Survey, 2019

Duration of stay of the respondents

Table 2 indicates that 63% of the respondents have been living in the study area for more than 5 years while 1% of the respondents were new in the study area. This implies that most of the household heads were entitled to all rights and privileges by the government of the state.

Table 2: Duration of Stay

Length of Stay	Frequency	%
Less than 1year	2	1
1–3years	23	13
4–5 years	40	23
More than 5 years	110	63
Total	175	100

Source: Authors Field Survey, 2019

Number of rooms

Table 3 shows that 74% of the houses in the study area have a maximum of three rooms, while 16% have above the initial numbers of rooms. This implies that the level of modification in terms of the number of rooms is average.

Table 3: Number of Rooms

Number of Rooms	Frequency	%
1	3	2
2	14	8
3	131	74
4	22	13
5 and above	5	3
Total	175	100

Source: Authors Field Survey, 2019

Household size of the respondents

Figure 2 shows that 38% of the houses in the study area accommodate 5 persons and above while 6% accommodates only 2 persons. This implies that the majority of the houses in the study area have an average household size of 5 as recommended by Nigeria.
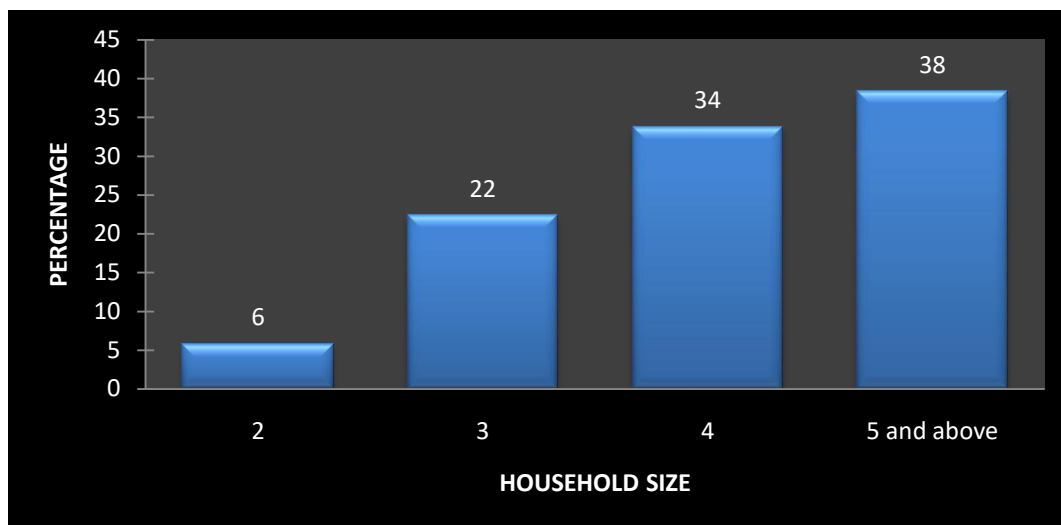
Figure 2: Household Size
Source: Authors Field Survey, 2019

Space Required by the Residents

Table 4 shows that 40% of the respondent indicated an interest in the provision of space for shops, however, 35% requested storage spaces, 10% requires additional space for the guest room and visitor's toilet respectively. The expression of the need for shopping space may be linked to the fact that the buildings occupying the front of the estate seldom have any shopping space provided (Plate 1). This implies that more shops and storage spaces are needed to enhance the level of satisfaction of the residents in the study area.

Table 4: Space Required by the Respondents

Space required	Frequency	%
Guest room	17	10
Laundry	3	2
Outdoor cooking space	4	2
Space for Shop	71	40
Storage spaces	62	35
Visitors toilet	17	10
Others	1	1
Total	175	100

Source: Authors Field Survey, 2019

Plate 1: Building without shop space at the frontage
Source: Authors Field Survey, 2019.

TYPE OF MODIFICATION

Figure 3 shows that the majority of the modification done in the study area is an expansion which is either internal or external in nature, which is an indication that the residents were less satisfied with the housing units they occupy. Some major modifications include fencing (Plate 2), expansion of the built coverage (Plate 3), and complete transformation of the housing structure (Plate 4). These transformations are a reflection of dissatisfaction with the original design of the structures.
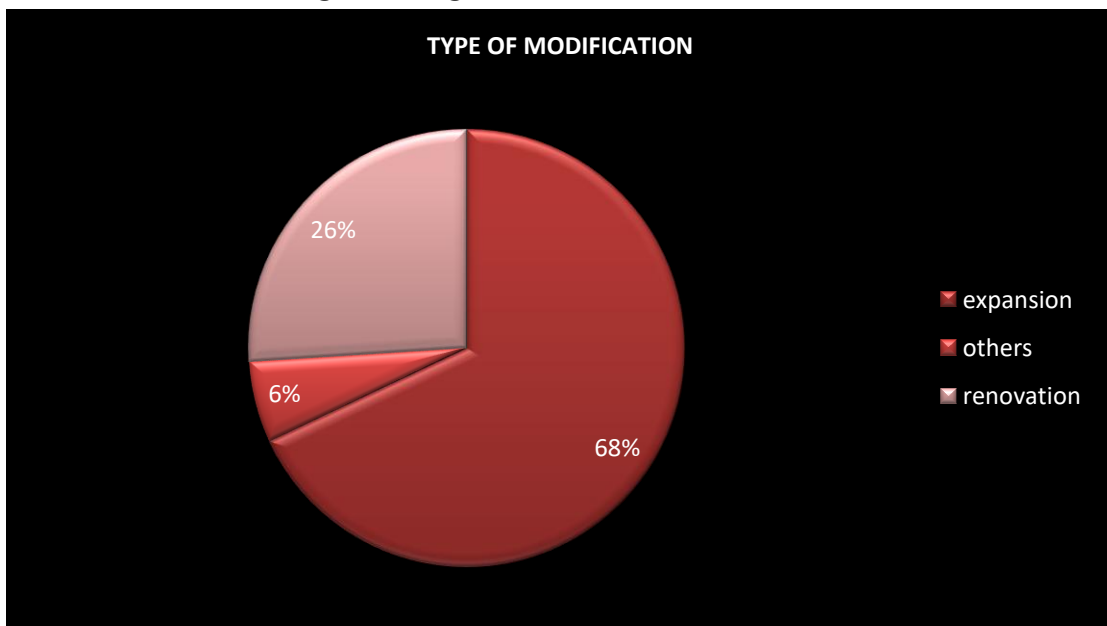

Figure 3: Type of Modification
Source: Authors Field Survey, 2019.

Plate 2: Building modification through fencing
Source: Authors Field Survey, 2019.

Plate 3: Building modification through expansion
Source: Authors Field Survey, 2019.

Plate 4: Building that has been completely modified from its initial design
Source: Authors Field Survey, 2019.

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Reason for Modification

Figure 4 illustrates that an increase in household size as a reason behind housing modification represents 56%, taste for modern design accounting for 33% and increase in income level represents 10% of the total sample frame. This implies that the major reasons behind the modification of building in the study area were increased in household size and taste for modern design respectively.
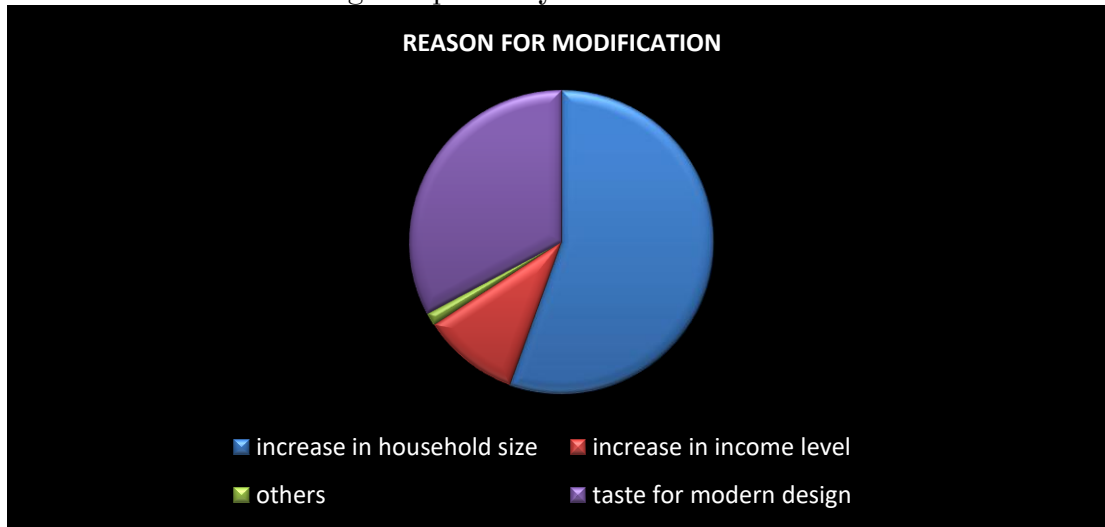

Figure 4: Reason for Modification
Source: Authors Field Survey, 2019.

ANALYSIS OF VARIANCE TEST

Table 5 shows that there is statistically no statistically significant relationship between the rate of housing modification and the level of residents' satisfaction in the study area, because the calculated value is less than the critical value, therefore we have to accept the null hypothesis.

Table 5: The result of the ANOVA test on the nexus of housing modification and satisfaction

Source	DF	Sum of squares	Mean squares	F	Pr > F
Model	3	0.4407	0.1469	3.0079	0.0318
Error	171	8.3519	0.0488		
Corrected Total	174	8.7926			

Computed against model Y=Mean(Y)
Source: Authors Field Survey, 2019.

Summary of findings

A number of deliberations were made from the analysis. These are displayed as follows;
1. The study found that the majority of the residents in the study area are civil servants and traders

2. A large number of the residents have stayed more than 5 years in the study area
3. The housing type that is noticeable in the study area is the semi-detached bungalow of 3 bedroom flat
4. A large number of housing units has a household size of 5 and above.
5. Spaces for the construction of shops are most needed by the habitants in the study area.
6. Generally, almost all the housing units are owned and occupied by the residents in the study area.
7. It was discovered that an increase in household size is the major reason behind the modification of most of the houses in the study area.
8. Most of the residents have expanded the size of their houses to make them more comfortable.
9. The residents are averagely satisfied with most of the components in the study area but have issues with drainage channels, garbage collection, and security.

Conclusion
The study investigates the extent of residents' satisfaction with low-cost housing provision in Tunga estate Minna, Niger State, Nigeria, with the view to determine the level of occupants' satisfaction with quality, condition of housing units, space allocation, and the quality of services, public amenities, and social environment. It is not an overstatement to argue that the findings of this study reveal that the majority of the residents of the sampled population of Tunga low-cost housing estate were averagely satisfied with most of the facilities and services available in the study area. Furthermore, it reveals that poor unit spacing and related issues; absence of quality water; unstable power supply and poor parking lot; insecurity, poor drainage, and sewage system, the high crime rate at the inception of the estate and systems are major problems affecting residents' satisfaction in Tunga low-cost Minna, Nigeria.

Recommendations
To improve the features and value of residential satisfaction in the study, the following recommendations are made;
1. The federal and states governments should pay attention to rehabilitation of roads and drainage systems within public housing estates, as these facilities help in meeting the day-to-day activities of the residents. The drainage system, as well as sewage disposal and management system of the housing units, should be thoroughly considered, as these contribute to all kinds of pollution within the housing estates. Relevant government agencies saddled with the responsibilities of ensuring well-managed drainage systems should intensify efforts on monitoring. Also, independent agencies and public participation should be encouraged and engaged for sustainable housing maintenance towards creating a healthy environment for its dwellers.
2. The policy implications of the study suggest that residential satisfaction and by extension the quality of life of residents of public housing constructed in the study

area between 2003 and 2009, and indeed future housing projects, can be enhanced through the provision of basic social amenities and infrastructural facilities in the housing estates. To achieve this, it is important to emphasize that future public housing projects for low and middle-income earners should be located closer to where there are shopping, educational, recreational, healthcare facilities and other public infrastructure to enable the residents to enjoy these vital services, which are necessary for decent living and hygienic environment.

3. It is also suggested that public housing developers should continue to improve the quality of dwelling units they produce by ensuring that houses are designed and constructed to provide adequate security, privacy, thermal and visual comfort for the occupants. Besides, more attention is needed in the area of routine maintenance of facilities, regular collection of refuse and constant supply of water and electricity in the estates.

4. Another policy implication is that public housing agencies should endeavour to adopt housing delivery strategies (e.g. Core Housing and Shell Stage) that involve the active participation of home buyers in the development of their dwelling units and promote incremental construction.

5. It is also important that the government should adopt policies that promote mortgage-based housing schemes for low and middle-income earners in Nigeria, as the survey data shows that people of lower-income groups are more satisfied if they gain ownership of government constructed houses on the mortgage than outright purchase arrangements.

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