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NEXUS BETWEEN PHYSICAL CONDITIONS OF HOUSING UNITS AND RESIDENTS' SATISFACTION IN PRIVATE HOUSING ESTATES IN ENUGU METROPOLIS, NIGERIA

Umeora, C.O.[1], Okoye, B.S.A[2], Odiaka, M.I.[3], Nnamani, M.O[2] & Chike-Ikemefuna, C.[3]
[1]Department of Architecture, Chukwuemeka Odumegwu Ojukwu University, Anambra State
[2]Department of Architecture, Godfrey Okoye University, Enugu State Nigeria
[3]Department of Architecture, University of Delta, Agbor Delta State Nigeria
Email: co.umeora@coou.edu.ng

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ABSTRACT

The objective of this study was to examine the nexus between physical conditions of housing units and residents' satisfaction in private housing estates in Enugu metropolis with a view to providing feedback for improved housing satisfaction. The data presented in this paper were drawn from a bigger research project designed to assess level of residents' satisfaction in private housing estates in Enugu State, Nigeria. The methodology adopted for this research was survey design. The research population was the private housing estates located in Enugu metropolis; focus was on four private housing estates randomly selected from the research population. After stratification that was based on building type, two hundred and fifty-six occupied housing units were randomly selected. Data was collected from primary sources using questionnaires. Findings from the research show that there is no significant relationship between housing conditions and level of residents' satisfaction with state of repair of the building in the private housing estates in Enugu metropolis. Housing estate developers and managers should device supervisory means as part of the housing development programme to ensure that occupants other than owner-occupiers do not let the dwelling unit to dilapidate to ensure sound state of repair of buildings. The study concludes that private housing developers should ensure that the type of components used in the buildings fit in to the income status of the occupants to ensure that they can be maintained adequately. It is vital that this provision is made during the building design and construction stages.

Keywords: Building Fabrics, housing unit, physical conditions, private housing estates, residents' satisfaction.

1. Introduction.

Developing countries are faced with pronounced degrees of urbanisation that are not complemented by sufficient increases in the rate of economic development. Agboola and Ayanlade, (2016) noted that the urban population in Nigeria increased from19.2% in 1963 to 42% in 1991 and 47.8% in 2015. Chukwu et. al (2024) opined that this urbanisation rate created a huge demand for urban housing which is not met by the government in major Nigerian cities. Due to the pressure to the existing housing stock, coupled with poor housing supply, some of the urban housing estates in Nigerian cities is either dilapidated or in need of major repairs.

Housing is one of the basic necessities of life and is a key pillar in the Maslow's hierarchy of needs and is needed for man's protection against weather elements, predators, etc (Chukwujeku, 2005 as cited in Umeora & Ike, 2021). Physical housing conditions refer to the sum of external effects, be they natural or man-made

which make the housing units comfortable for the inhabitants. They play a major role in individual health status as they have been reported to influence the physical, social, economic and mental wellbeing of occupants. Satisfaction is the fulfilment derived from a need as man has some basic needs with housing as one of them. Ibem, Adeboye and Alagbe (2015) noted that there is deficiency in housing which in turn affects level of residents' satisfaction if the housing does not meet their needs/priorities; thus, having profound effect on the well-being of residents.

Efforts are always made at addressing the challenges posed by inadequacies in the housing sector and these efforts have crowned in several housing programmes by public and private sectors in various parts of Nigeria (Ibem, 2011). Waziri et. al (2013) noted that the private sector over the years has provided majority of the housing stock in Nigeria. Thus, private developers in Enugu and Nigeria at large engage in development of new housing estates which try to meet up with demands in addressing housing for the people. Umeora and Ike, (2021) noted that investments in private housing estate are often driven by profit motive, so it is expected that the housing should meet residents' satisfaction so as to achieve optimal occupation at all times for profitability. Failure of this will create voids, which limit profitability too. On the one hand, investments made by the developers in the estate may suffer setbacks with significant voids incidence, while on the other hand, owner-occupier families and occupant tenants of the estate may suffer from desolate environment. Aigbavboa and Thwala (2013) opined that there is need to carry out studies on housing with residents, to provide relevant post occupancy feed-back towards development of housing that meets residents' satisfaction.

Some human activities that were not regulated and planned for in the private housing estates, have contributed to poor housing conditions. These activities were: installation of plastic water tanks and piping the supply of water into the dwelling unit, addition of sun shading/rain protection devices. Some of the poor housing conditions in the estates are manifest in surface dampness on the walls, peeling of paints, algae growth on the walls, and runoff of surface water which lead to reduced infrastructural quality, and deterioration of buildings and facilities. These sometimes create complications that affect residents' satisfaction. It is for these reasons that the objective of this study was to examine the nexus between physical conditions of housing unit and residents' satisfaction in private housing estates in Enugu metropolis with a view to providing feedback for improved housing satisfaction in the private housing estates. A null hypothesis was put forward which sought to establish the significant relationship between housing conditions and residents' satisfaction in the estates. It stated that there is no significant relationship between the physical conditions of housing units and the residents' satisfaction in in private housing estates in Enugu metropolis.

Area of Study

Enugu was the administrative capital of the old Eastern Region, capital of the old Anambra State and later became the capital of Enugu state with its creation as a new state in 1991. The city owes its origin and early growth to the discovery of coal and it is still fondly called the "Coal City". In 1903, the British first arrived in Enugu area for exploitation of the Southern Nigeria protectorate in exploration for mineral resources. In the

year 1909 coal was discovered at Enugwu-Ngwo in Udi area, by the year 1913 sustainable commercial amounts of coal was confirmed. Umeora (2020) stated that by this confirmation of coal in large commercial quantity, Enugu became a significant and major coal mining area in West Africa.

Enugu is situated between latitudes 06º 21' N and 06º 30' North of the equator, longitude 07º 26' E and 07º 37'E of Greenwich Meridian. The town has boundaries in the east with Nkanu East Local Government Area, Udi Local Government Area in the west, Igbo-Etiti and Isiuzo Local Government Areas in the north and in the south with Nkanu West Local Government Area. Enugu metropolis comprises three local government areas, Figure 1 shows the local governments, which are; Enugu North, Enugu East and Enugu South. According to National Population Commission (2006), Enugu city had a population of 722,664 and nearly two million according to 2015 projection as well as population density of about 427.6 persons per square kilometre.

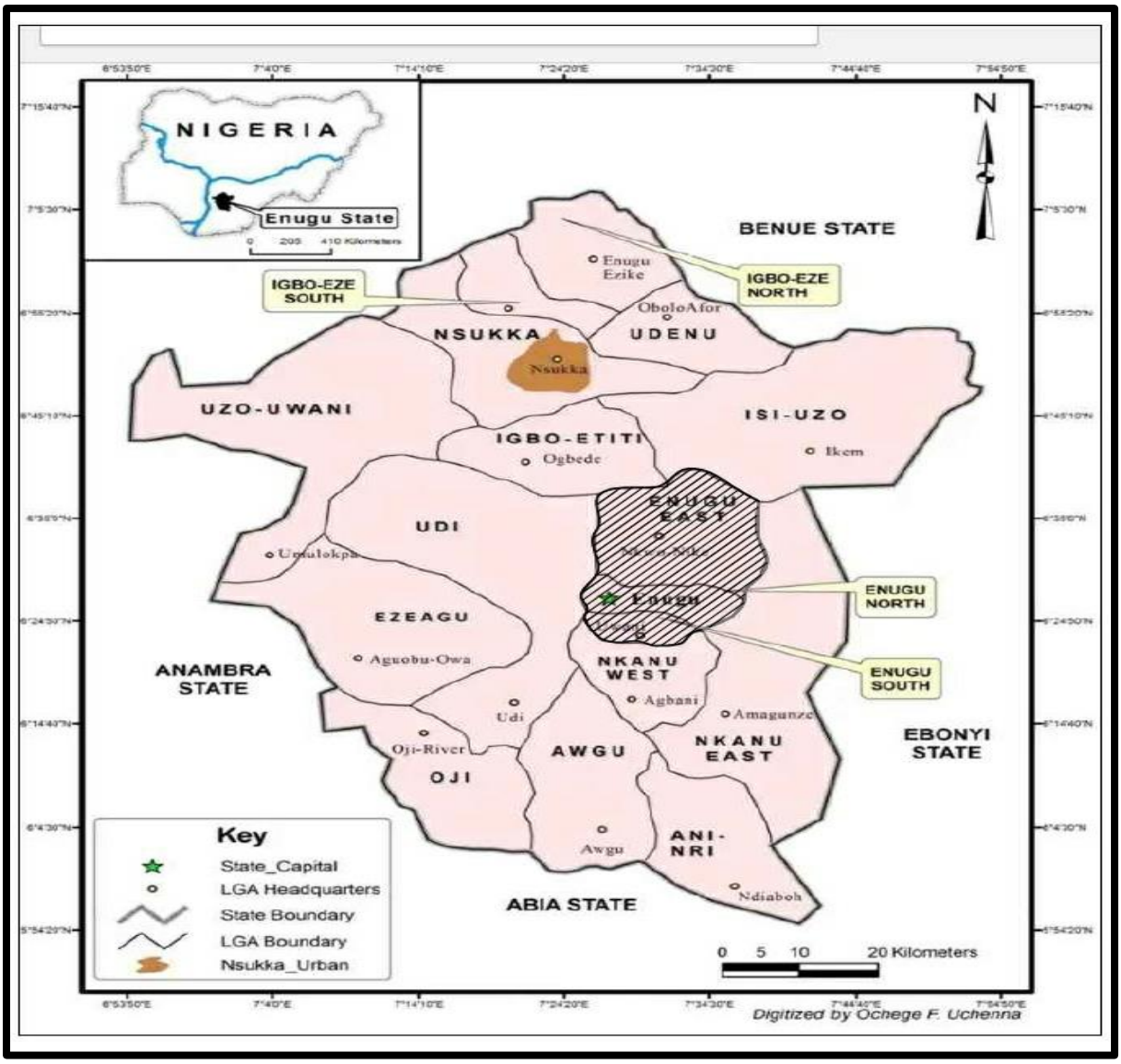

Figure 1: Map of Enugu state presenting Enugu Metropolis

Source: Umeora (2020)

LITERATURE REVIEW

The physical conditions of the housing unit play a major role in residents' satisfaction which invariably affects resident's health status, and mental well-being of occupants (Chukwu et. al, 2024). The state of repair of buildings is a vital influential feature of the habitability of buildings as this exposes the resident's level of satisfaction, well-being and safety. Thus, Olotuah (2006) noted that housing conditions is a vital determining factor of the state of the habitability of buildings, which in totality describes the level of housing quality. World Health Organisation stated that housing should provide residents with protection against injuries, and reduce psychological stresses to a minimum.

The study of satisfaction came into limelight in post-World War II affluence of the 1950s and is used in disciplines such as housing and psychology; since the 1980s. Residential satisfaction studies have been used as instrument to evaluate and improve housing (Mohit & Azim, 2012 as cited in Umeora, 2020). It was applied as a source for optimising the designs of housing programmes. Responses were collected from the residents and fed back into the design process for proposed housing developments.

Satisfaction can be described as a procedure of appraisal between what was got and what is anticipated. It can also be described as a fulfilment derived from a need or the level of pleasure derived by a person from a need (Botwe, 2012). Residents' satisfaction studies with housing serve as a lead for designers, housing planners and housing policy makers who are into provision of housing for people. Satisfaction in housing has been studied using different housing settings such as: self-contained apartments, gate-guarded houses and low-income housing with both qualitative and quantitative gaps (Lawanson & Onifade, 2015). Qualitative inadequacies have existed due to failure of stakeholders in housing sector to consider factors that define satisfaction. Architecture of the private housing estates can be a tool of improvement qualitative inadequacies in housing situations through the designs.

Akinbamiro (2012) established a significant relationship between housing conditions, the health status of residents and housing quality. The variables measured were in terms of age of the building, type and number of toilets, walling materials, type of roofing materials, type of kitchen and state of repairs of the building. Ibem (2011) pointed out that the condition of buildings encompasses a number of variables such as resilience of construction materials used in the building, the adequacy of internal spaces within the housing units and amenities, number of occupants, among others, structural stability, quality of design and workmanship. Olukolajo, Adewusi and Ogungbenro, (2013) further opined that suitable housing conditions can protect occupants from unsafe exposures, provide privacy, security, and contribute significantly to their health.

In some of the private housing estates, it can be observed that the occupants of the estates live in the buildings and the physical environment despite the poor housing conditions. This affects the quality of life of the occupants. For occupants in a rental apartment, poor housing conditions caused them to attempt to reconcile the poor housing conditions by adaptation through redefining needs, and or altering the current housing

situation, thereby producing a bit of satisfaction. The other alternative is for owner-occupier residents in the estate to somehow adapt to the current residential situation, in which case dissatisfaction is manifested. Such resident, over time attempted to reduce their dissatisfaction by altering the conditions of the present dwelling unit to improve the housing condition as indicated in the introduction of this study.

Methodology

The research design for this study was survey design. This was achieved through the use of a questionnaire to collect data from respondents in the study area. The research population was the completed and inhabited private housing estates within Enugu metropolis. Stratified sampling of the estates based on building type was adopted as the sampling method for this study. In the first stage, the list of the 7 estates completed and occupied in the study area was generated as shown in Table 1.

Table 3.1: List of Private Housing Estates in Enugu city

S/N	NAME OF ESTATES
1	Bethel Estate
2	Central Bank Staff Quarters
3	Cosco Estates
4	Elim Estate
5	Goshen Estate
6	Refiners Estate
7	Nwannedinamba Housing Estate

Source: Author's fieldwork, (2018)

In the second stage, the categorisation of the estates based on building type was done. The categorisation of the estates is: 1-bedroom and 2-bedroom bungalows combined, 2-bedroom blocks of flats and 3-bedroom blocks of flats combined, 1-bedroom, 2-bedroom and 3-bedroom bungalows combined. Table 2 describes the categorisation based on the criterion stated.

Table 2: Stratification of the private estates by house type

S/N	1-bedroom and 2-bedroom bungalows combined	1-bedroom, 2-bedroom and 3-bedroom bungalows combined	1-bedroom and 2-bedroom flats	2-bedroom and 3-bedroom flats combined
1	Nwannedinamba estate	Goshen estate	Elim estate	COSCO estate
2		Bethel estate		Refiners Estate
3		Elim estate		Central Bank quarters
4				Elim estate

Source: Author's fieldwork, (2018)

Following the stratification, random sampling by balloting was carried out and the following estates were selected:

(i) 1-bedroom and 2-bedroom bungalows combined: - Nwanne di namba estate

(ii) 1-bedroom, 2-bedroom and 3-bedroom bungalows combined: - Bethel estate and Elim

estate

(iii) 1-bedroom and 2-bedroom terrace flats: - Elim estate

(iv) 2-bedroom and 3-bedroom flats combined: - Central Bank quarters

Table 3 shows the number of dwelling units for the sampled housing estate

Table 3: Number of dwelling units in sampled estates

	Nwannedinamba estate	Bethel estate	Elim estate	CBN Quarters	Total
Number of Housing units	50	131	324	261	766

Source: (Author's fieldwork, 2018; Goshen, 2011; Obodoh, 2009; Copen Group, 2014)

The sample size was derived using Cochran formula:

$$n = \frac{Z^2 \times \sigma^2_p \times N}{(N-1)\, e^2 + Z^2 \times \sigma^2_p}$$

Where:

n = size of sample for finite population

N = research population = 766 housing units

σp = standard deviation of population assumed = 0.5

e = significance level (precision/acceptable error) chosen = 0.05

Z = standard variate at a given confidence level = 1.96 for a confidence level of 95% (Kothari, 2004)

Sample size of 256 respondents was derived and distributed to the estates in ratio of their contribution as shown in Table 4. The respondents were also required to rate their level of satisfaction based on a five-point Likert scale corresponding to: 1-Very dissatisfied; 2- Dissatisfied; 3-Neutral; 4-Satisfied; 5-Very satisfied.

Table 4: No. of Respondents Sampled

Number	Nwannedinamba estate	Bethel estate	Elim estate	CBN Quarters	Total
Sampled	17	44	108	87	256

Source: Author's fieldwork, (2018).

RESULTS AND DISCUSSION

Point bi-serial Correlation analysis was also conducted to test significant relationship between the two variables selected from the research data using Statistical Package for Social Sciences.

The two variables in focus were – *'housing conditions'* and '*satisfaction with state of repair of the building'*. Consequently, Point biserial correlation analysis tool was applied in examining the significance of relationship. The result of the analysis indicated a correlation coefficient value of 0.005 with a significance probability point of 0.937. The implication is that a weak relationship exists between the two examined variables. It therefore means that the relationship between them is weak and the significance probability point of 0.937 indicates no significance. Conclusion can then be reached that there is no significant relationship between the two examined variables, hence the null hypothesis is accepted. This hypothesis thus, states that *'there is no significant relationship between housing conditions and level of satisfaction with state of repair of the building in the private housing estates in Enugu metropolis'*. Table 5 illustrates this result.

Table 5: Point biserial correlation analysis of relationship between *the variables*

		Satisfaction with state of repair of the building
housing conditions	Pearson Correlation	-.005
	Sig. (2-tailed)	.937
	N	233

Source: Field work, 2018.

The objective was to examine the physical condition of the building fabrics and its effect on level of residents' satisfaction in the private housing estates in Enugu metropolis. The hypothesis for this objective was that - there is no significant relationship between the housing conditions and level of satisfaction with state of repair of the building in the private housing estates in Enugu metropolis. The point biserial statistical tool was applied at 95% confidence level, the null hypothesis was accepted. It was statistically proven that there is no significant relationship between housing conditions and satisfaction with state of repair of the building in the private housing estates in Enugu metropolis. This, as a result, implies that residents' satisfaction with state of repair of the building in the private housing estates is not dependent on housing conditions in the estates. However, for residents' satisfaction with state of repair of buildings, efforts should be made of private housing estate developers to make sure that provision is made for adequate water supply in the estates. This is to reduce additions and alternative provisions the residents make towards seeking alternatives as this sometimes lead to deterioration of the housing conditions. Equally, considerations on the type of material to be used as wall finishes should be made bearing in mind the status of intended residents. Though, residents may want their buildings to reflect their personality, it must be realised that the buildings whose appropriate relation to other variables is of key importance to the estates functioning properly. These can go a long way in positively affecting residents' satisfaction with housing units.

CONCLUSION

The attainment of adequate housing unit which in turn affects residents' satisfaction has been indicated. Likewise, there is a need to boost the elements that can lead to the accomplishment of adequate housing to realise satisfaction with the housing unit. Having statistically shown that there is no significant relationship between housing conditions and satisfaction with state of repair of building. There are however, variables identified to have correlation with satisfaction with state of repair of building. Therefore:

Private housing developers should ensure that the type of wall finishes used on the façade of buildings conform to the income status of the occupants. It is not only imperative, that this provision is made, but also to ensure it is implemented during the building construction stage. For example, for a low-income people to live in a house with tiles or marble as the wall finish, it will be obvious that the occupant may find it challenging to replace the tiles when broken. Thus, leading to dissatisfaction with the housing unit. This may not be the same situation for a higher income earner.

Housing tenure, which is the monetary arrangement under which a resident has to right to live in a house is important to state of repair of buildings. Housing estate developers and managers should device supervisory means and incorporate it as part of the housing development programme to ensure that occupants other than owner-occupiers do not let the dwelling unit to dilapidate. This is so, because the said occupants do not have anything at stake since they can move to other estates if the dwelling unit is left to get to a state of disrepair. When the building is at this state, it will be difficult to get new occupants, unless the scarce resources are ploughed into renovation works, which would have been avoided through adequate supervision.

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