

## PHYSICAL CONDITIONS OF BUILDINGS AS PREDICTOR OF HOUSING QUALITY IN IMO STATE HOUSING CORPORATION ESTATES IN OWERRI, NIGERIA

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### Abstract

*The condition of housing has been identified as a vital determining factor for the habitability of buildings as it indicates the level of residents' well-being and safety. Also, poor quality housing has been noted as being not only hazardous to their occupants' health and welfare but also a limiting agent to their output and productivity. As such, this study investigated the effects of housing conditions on housing quality in Imo State Housing Corporation (IMSHC) estates in Owerri Capital Territory, Imo State Nigeria, with the view to providing feedback criteria for improved housing quality in the study area. The specific objective was to investigate the effect of the physical conditions of building units on housing quality in the IMSHC estates. A survey design method was applied with a focus on five IMSHC estates. These were randomly selected from the research population following a stratification based on housing type. Three hundred and five occupied housing units were randomly sampled from the selected estates. Data was collected from these using questionnaires. Several variables ('state of floor finish', 'state of repair of external walls' and 'state of repair of the roof') were combined to create a composite variable: 'Physical conditions of building units. Similarly, the variables, 'Protection against insects and pests', 'Natural ventilation in the sitting room and bedrooms,' 'Natural lighting in the sitting room and bedrooms', 'Good toilet and bathroom facilities', 'Waste disposal facilities', 'External lighting in the estate', 'Adequacy of road network within the estate' were also combined to obtain the variable 'Housing quality'. Because both composite variables were interval variables, the Pearson Product Moment correlation tool was used to test the significance of their relationship. It was established that there is a significant relationship between the physical conditions of building units and the housing quality in the study area. It is recommended that the IMSHC should make the maintenance of good physical conditions of the building units a priority to achieve good housing quality. IMSHC whose duty is to maintain the housing estates should ensure that they sustain good conditions of the building units. This can be achieved in collaboration with the residents of the estates, to preserve the visual appeal of the estates and wellbeing of the residents.*

**Keywords:** Building maintenance, Housing Quality, Physical Conditions, Residential housing

## **INTRODUCTION**

Developing countries (Nigeria inclusive) are challenged with high rates of urbanisation that are not accompanied by adequate increases in the rate of economic development (Bello & Egresi, 2017). Agboola and Ayanlade, (2016) noted that the urban population in Nigeria increased from 19.2% in 1963 to 42% in 1991 and 47.8% in 2015. This urbanisation rate created a huge demand for urban housing which is met by the government in major Nigerian cities. Consequently, between 20% and 35% of urban housing in Nigerian cities is either dilapidated or in need of major repairs because of poor housing conditions in the various housing schemes (Muhammad & Bichi, 2014). Owerri, the Capital Territory of Imo State, is not left out in urbanisation and population growth. From 2006 to 2016, Owerri has experienced an average population growth rate of 4.04% (United Nations, 2022). The consequences of the population growth are evident in the urban housing crisis which has affected the housing conditions as the supply of housing stock manifestly lags behind the needs of the populace (Umeora, 2020).

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 well-being of occupants (Turunen, et al, 2010). The World Health Organization (WHO) also stated that housing should be reduced to the barest minimum, for the occupants, the following: physical injury, poisoning, chronic diseases, psychological and social stresses.

Following the mass exodus of civil servants from Enugu (East Central State), when Imo State was created in 1976, the Imo State Housing Corporation (IMSHC) was established by Edict No. 14 of 1976 (under section 3). IMSHC has the mandate to design and supervise the construction of houses, the acquisition of houses, the management of housing estates, rentals to the members of the public, maintenance of buildings and other infrastructure needed for the proper functioning of the estates. Some of the IMSHC estates in Owerri were developed over 30 years ago, and it would seem that it has not met the expectations of its founders. As managers of the estates, it has the responsibility to ensure that the building units in the estates and facilities do not deteriorate due to the lack of maintenance operations.

Housing quality has been defined as the totality of the state of the physical, environmental and satisfaction level of a particular dwelling unit measured against some variables of liveability within a period (Muhammad, Bello, Ishaq, Bello & Adamu, 2021). It is a comprehensive concept that determines whether or not housing meets recognised specific standards of household needs. Several studies in different Nigeria cities (Awe & Afolabi, 2017; Mbazor, 2018; Muhammad, Kasim, Martin, Mohammed & Adamu, 2015) revealed the following indices of poor housing quality: deplorable conditions in building elements such as roofs, doors, windows, floors, ceilings and walls; lack potable water, toilet and bathing facility, solid waste disposal facility and electricity supply; generally poor infrastructure and an increasing shortage of urban services and infrastructure. All these make the buildings unsuitable for human habitation. The housing quality in public housing estates in Owerri Capital Territory seems to be deteriorating due to these stated

conditions of the buildings and the environment. This has occurred over the years apparently because of the lack of repair and maintenance of these buildings and infrastructure. This affects the way the residents spend their income, leisure time, health, and attitudes to social relations.

The Owerri Capital Territory has, over the years witnessed the migration of people from different parts of Nigeria. As a result, several housing estates have been put under pressure. Some of these estates lack basic amenities such as electricity, storm water drainages, potable water, proper waste disposal systems, roads, adequate facilities, ventilation, lighting, etc. The lack and inadequacy of these affect the housing quality. Additionally, poor housing quality is associated with a wide range of health conditions such as respiratory diseases, depression, nausea, allergic symptoms, hypothermia, physical injury, and food poisoning. The health hazard related to poor housing quality can cause Sick Building Syndrome in the estates.

Some human activities in Imo State Housing Corporation estates, such as poor drainage planning, building along the drainage profile and blocking of drainage channels have also contributed to poor housing conditions. Some 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 causing erosion in the environment. In the residents' quest to overcome some of these situations enumerated above, they engage in certain developments in the housing estates with the view to improving the quality. These sometimes constitute complications like unregulated developments, reduced infrastructural quality, and deterioration of buildings and facilities.

This study was part of a wider research that sought to examine the effect of housing conditions on housing quality in Imo Housing Corporation estates in Owerri capital territory to provide guidelines for improving housing quality in the study area. The specific objective of this study was to investigate the physical conditions of building units and their effect on housing quality in Imo State Housing Corporation (IMSHC) estates in Owerri Capital Territory, Nigeria. A null hypothesis was put forward which sought to establish the significant relationship between housing conditions and housing quality in the estates. It stated that there is no significant relationship between the physical conditions of building units and the housing quality in Imo State Housing Corporation (IMSHC) estates in Owerri Capital Territory.

## **Study Area**

The area of study Owerri Capital Territory is situated in Imo State, Nigeria. Owerri is the capital of Imo State, Nigeria. It was created by the military administration of General Murtala Ramat Muhammed on February 3rd 1976. It is located along the crossroad of major commercial routes in Southeast Nigeria, which are Onitsha – Owerri Express Road, Owerri - Port Harcourt Express Road, Owerri – Umuahia Road and Owerri – Aba Road. Owerri Capital Territory comprises the following local governments in Imo State: Owerri Municipal, Owerri West, Owerri North and parts of Mbaitoli, Aboh Mbaise, Ngor Okpala, Ohaji/Egbema and Ikeduru Local Government Areas.

Nigeria is a country in West Africa that is situated in the northern latitudes between 4° and 14° and between 3° and 15° of the eastern longitudes. It borders Niger in the north, Chad in the northeast, Cameroon in the east, and Benin in the west. Nigeria covers an area of 923,769 square kilometres, with a population of over 211 million (National Population Commission, 2006). Nigeria is made up of 36 States and Imo State is one of them. Figure 1 shows the map of Nigeria locating Imo State.



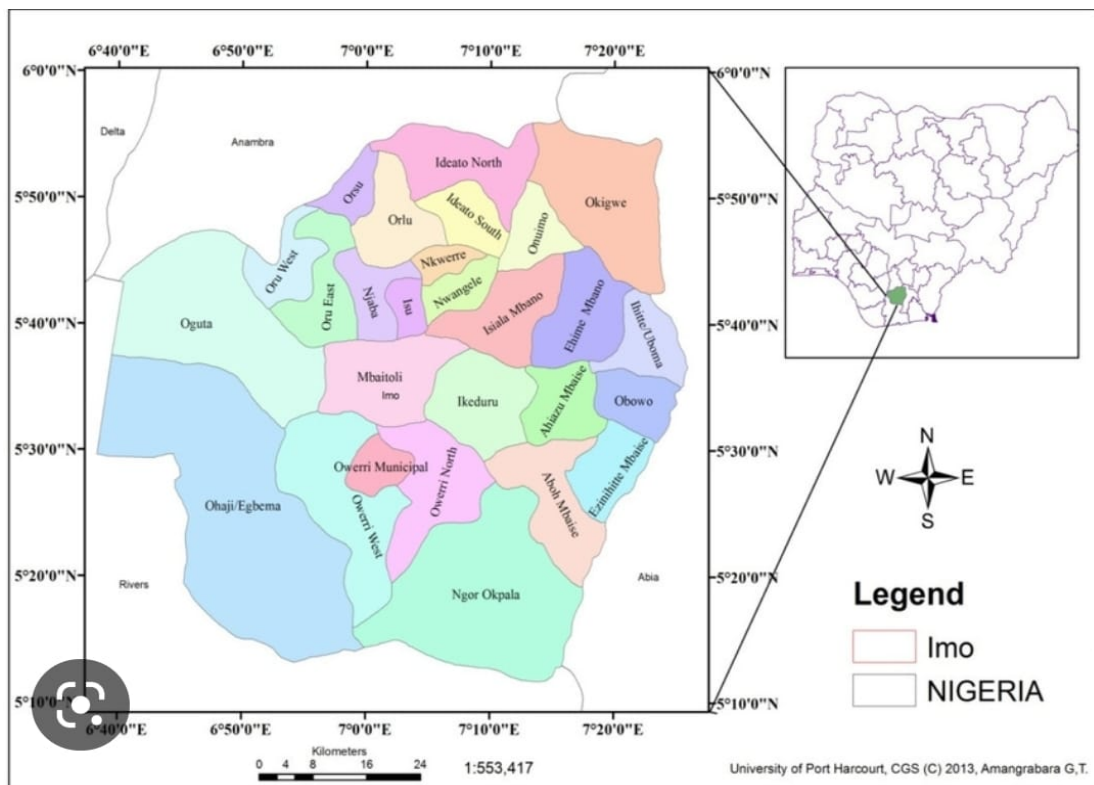
**Figure 1 Map of Nigeria showing Imo state**

Source: Nationsonline.org, (2021)

Owerri Capital Territory is located between latitudes 05°25' and 05°32' North and longitudes 06°57' and 07°07'. Rainfall is the greatest climatic variable with an annual total mean of 2190mm (Chukwuocha, Ngah, & Chukwuocha, 2017). Other climatic data of the study area include an average annual high temperature of 32°C (89.96°F), an annual low temperature of 23.19°C (73.74°F), average annual precipitation of 229.07cm and humidity of 74.78% (Nigerian climatic classification, 2023). Weather parameters are paramount in this era of climate change. Also, relative humidity, amount of sunshine and wind speed among others are weather parameters which play a role in determining the amount of rainfall received in an area (Romeo & Godcares, 2017).

Owerri Capital Territory is approximately 100 square kilometres in area. It is the capital of the Imo State of Nigeria, set in the heart of Igbo land. The existence of some tertiary institutions which include: the Federal University of Technology Owerri, Federal Polytechnic Nekede Owerri, Alvan Ikoku Federal College of Education Owerri, Federal College of Land Resources Owerri, Imo State University Owerri, Imo State University of Environmental Studies Umuagwo Owerri, as well as the existence of many hotels, has contributed to increased housing demand in Owerri. Imo State Housing Corporation has developed fourteen (14) housing estates in Owerri.

Also, there has been a noticeable migration of people from various parts of Nigeria to Owerri in search of job opportunities and better means of livelihood. This has made the population of Owerri keep increasing. There is a resultant increased pressure on limited facilities, and this is manifested in the growth of squatter settlements, overcrowded habitation, breakdown of waste disposal arrangements, inadequate water and power supply as well as generally poor environmental sanitation. The government of Imo State in its bid to reduce the level of housing shortage and provide housing to the teeming population of Owerri established Imo Housing Corporation. Between the years 1976 and 2016, the Imo Housing Corporation developed fourteen (14) housing estates in Owerri. Figure 2 shows the map of Owerri Capital Territory.



**Figure 2: Map of Nigeria showing Imo State and the study area (Owerri Capital Territory)**

*Source: Owerri Capital Development Authority (2009)*

## **LITERATURE REVIEW**

The physical conditions of the housing unit play a major role in housing quality which invariably affects resident's health status, as a wide variety of housing features have been reported to influence the physical, social, economic, and mental well-being of occupants (Turunen, Paanala, Villman, Nevalainen & Haverinen-Shaughnessy, 2010). Olotuah (2006) noted that the state of repair of building fabrics/housing conditions is a vital determining factor of the state of the habitability of buildings, which in totality describes the level of housing quality. WHO (1990) stated that housing should provide: protection against communicable diseases, injury, poisoning, chronic diseases, and reduce psychological and social stresses to a minimum. These can be achieved only when there is good housing quality.

Ibem (2011) noted that the condition of buildings comprises several variables such as the adequacy of internal spaces within the housing units and amenities, as well as the number of occupants, among others. In addition to these variables, UN-HABITAT (2006) included: resilience of construction materials used in the building, secured house tenure ship, structural stability, quality of design and workmanship. The adequate physical and mental health of residents depends on having quality housing that is safe and free from physical hazards. Shaw (2004) as cited in Olukolajo, Adewusi and Ogungbenro, (2013) opined that adequate housing conditions can protect individuals from harmful exposures, provide them with needed privacy, security, stability, and control and capable of making a significant contribution to health. Conversely, when the condition of housing is poor and inadequate, it may result in unpleasant developments.

Akinbamiro (2012) in a study at Odi- Olowo residential district, Osogbo, Osun state, Nigeria, 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. Deteriorating paint in old buildings has been identified as the main source of lead poisoning for children, who are exposed to paint chips and inhale lead-contaminated dust (Olukolajo, Adewusi, & Ogungbenro, 2013). Lead poisoning can cause permanent brain damage and paralyses the development of the nervous system, thus, resulting in lower intelligence and reading disabilities.

### **Theoretical Framework**

#### *Psychological Construct Theory*

The psychological construct theory was introduced by G.C Galster (Galster, 1985). It states that individuals may be seen as cognitively constructing a reference condition for each aspect of their residential situation. The quantity or quality of the given aspect implied by the reference point will hinge on the individual's self-assessed needs and aspirations. If the current situation is

perceived to be in proximate agreement with (or superior to) the reference situation, a psychological state of satisfaction is manifested. If, on the other hand, the current situation falls short of the reference situation by more than a threshold deficiency, two alternatives are possible. One may attempt to reconcile the incongruence by adaptation, through redefining needs, reducing aspirations and/or altering the evaluation of the current situation, thereby producing a small quantity of satisfaction. The other alternative is that one cannot somehow adapt to the current residential context, in which case dissatisfaction is manifested. Such individuals over time, would likely attempt to reduce their dissatisfaction by altering the conditions of the present dwelling unit or by moving to another more congruent residential situation.

The main elements of Psychological Construct Theory are: (a) Individuals cognitively construct a reference condition of their residential situation. (b) Satisfaction prevails when current housing is proximately congruent with the reference situation. (c) Incongruence leads to adaptation or dissatisfaction/ modification (Ilesanmi, 2010).

In IMSHC estates, it can be observed that the occupants of the estates live in the buildings and the physical environment despite the poor housing conditions as shown in the background of the study. 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, reducing aspirations and or altering the evaluation of the current situation, thereby producing a modicum of satisfaction. The other alternative is for owner-occupier residents in the estate who cannot somehow adapt to the current residential context, 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. These housing adjustment behaviours as explained by Psychological construct theory, are evident in the study area as well as the theory thus adopted for 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 IMSHC estates within Owerri Capital Territory, built and inhabited between 1976 and 2016 when the last housing estate was completed. 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 14 estates completed and occupied in the study area was generated as shown in Table 1.

**Table 1: List of Imo State Housing Corporation Estates in Owerri Capital Territory**

S/N	NAME OF ESTATE
1	Aladimma
2	Prefab
3	Prefab Extension I
4	Prefab Extension II
5	Uratta Road
6	Trans-Egbu
7	Umuguma Area 'S'
8	Umuguma Area 'X'
9	Umuguma Area 'XA'
10	Tavron Prefab Estate
11	City Garden Estate MCC Road
12	Redemption Housing Estate 1 Avu/Obinze
13	Exclusive Garden Estate Phase I&II Nekede
14	Oforola Housing Estate Oforola

*Source: Imo State Housing Corporation (2016)*

In the second stage, the categorisation of the estates based on building type was done. The categorisation of the estates is 1 - Bungalows; 2 - Bungalows and Duplexes; 3 - Bungalows and 3-storey blocks of flats. Table 2 describes the categorisation based on the criterion stated.

**Table 2: List of Imo State housing corporation estates in Owerri categorised by house type in the estates**

S/N	Bungalow	Bungalow and Duplex	Bungalow and 3 Storey Block of Flats
1	Redemption Estate	Prefab Estate	Trans-Egbu Estate
2	Aladimma Estate	Umugwuma Estate	
3	Uratta Road Estate	Oforola Estate	
4	Tavros Estate	City Garden estate	
5		Nekede Exclusive Garden Estate	

*Source: Fieldwork (2023)*

Following the categorization, random sampling by balloting was carried out and the following were picked to represent the various building types:

- i. Bungalows: Aladimma Estate and Uratta Road Housing Estate



- ii. Bungalows and Duplex combined: Prefab estate and City Garden Estate
- iii. Bungalow and 3 Storey Block of Flats: Trans-Egbu

Sampling size was derived using the Cochran formula for finite population: from Kothari (2004)

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

Where n = size of sample for finite population; N = research population = 1484 housing units;  $\sigma_p$  = 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%. A sample size of 305 respondents was derived and distributed to the estates in ratio to their contribution as shown in Table 2.

**Table 2: Respondents Population in Sampled Estates**

	<b>Aladimma Estate</b>	<b>Uratta Road</b>	<b>Prefab</b>	<b>City Garden</b>	<b>Trans-Egbu</b>
Existing	556	310	267	10	341
Sampled	114	64	55	2	70

Source: Fieldwork (2023)

A systematic random sampling was used in the selection of housing units in each street of the housing estates. After the first house, every fourth house was surveyed. In each house, in the case of a multi-family unit, one household would be administered the questionnaire.

Pearson's Product Moment Correlation analysis was used to test the significant relationship between the two Interval variables selected from the research data using Statistical Package for Social Sciences.

## RESULTS AND DISCUSSION

### Analysis of aggregated data on the state of the floor finish

The state of the floor finish was investigated, and the results showed that buildings with a good state of floor finish had the largest percentage while buildings with a very bad state of floor finish were less (1.0%), and the ones with a bad state of floor finish had 19.5%. This is further shown in Table 3. These buildings with bad, and very bad state of floor finish implied that they were in poor condition and could cause injuries to the occupants, with safety and health issues.

**Table 3: Aggregated data on the state of floor finish in the buildings**

Value label	Frequency	Valid Percent	Cumulative Percent
Very good	39	13.6	13.6
Good	157	54.7	68.3
Not sure	32	11.1	79.4
Bad	56	19.5	99.0
Very bad	3	1.0	100.0
Total	287	100.0	

Source: Fieldwork (2023)

### Analysis of aggregated data on the state of repair of external walls

The state of repair of walls was examined and the results showed that a greater percentage of the external walls were in a bad state of repair at (41.5%) while the external walls in a good state of repair were less at 38.3%. Table 4 shows the details. This means that the buildings in a bad state of external wall repairs were in a poor state, and it was not fit for human inhabitation.

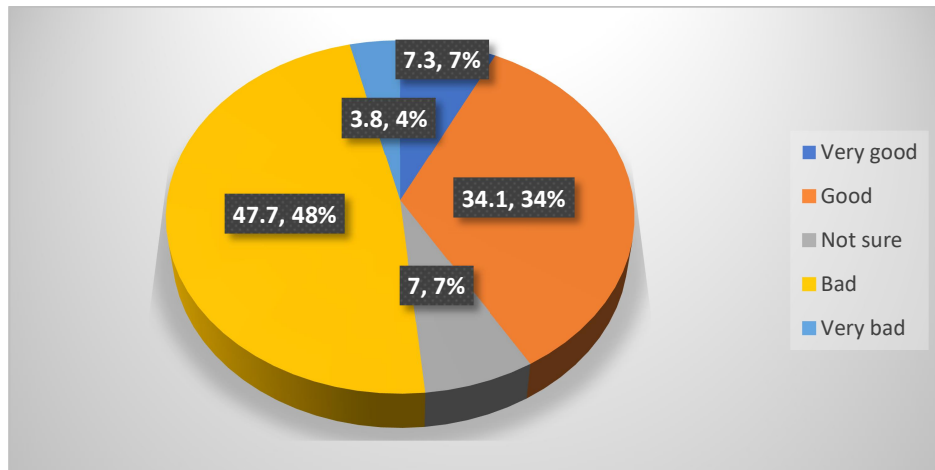
**Table 4: Aggregated data on the state of repair of external walls in the buildings**

Value label	Frequency	Valid Percent	Cumulative Percent
Very good	15	5.2	5.2
Good	110	38.3	43.6
Not sure	30	10.5	54.0
Bad	119	41.5	95.5
Very bad	13	4.5	100.0
Total	287	100.0	

Source: Fieldwork (2023)

### Analysis of aggregated data on the state of repair of the roof

From the data gathered and analysed, roofs with bad state of repair were greater in number with 47.7% of the respondents indicating so while the ones in good state of repair were 34.1%. This implies that a greater proportion of the roofs were in a bad state and the need for repairs and improvement of the condition of the roof was necessary. Figure 3 elaborates more.



**Figure 3: Aggregated data on the state of repair of roofs in the buildings**

Source: Fieldwork (2023)

### Analysis of aggregated data on protection against insects and pests in the estates

The aggregated data analysis indicated that 28.2% of the respondents indicated that the building had adequate protection against insects and pests while 22.3% indicated that they had no adequate protection against insects and pests as shown in Table 5. This protection was essential towards promoting the well-being of the residents.

**Table 5: Aggregated data on protection against insects and pests in the estates**

Value label	Frequency	Valid Percent	Cumulative Percent
Very inadequate	15	5.2	5.2
Inadequate	64	22.3	27.5
Undecided	107	37.3	64.8
Adequate	81	28.2	93.0
Very adequate	20	7.0	100.0
Total	287	100.0	

Source: Fieldwork (2023)

### Analysis of aggregated data on natural ventilation in the sitting room and bedrooms in the estate

The data analysis showed that most of the sitting rooms and bedrooms in the estates had natural ventilation as shown by 64.8% of the respondents. Very few respondents put together indicated that natural ventilation in the sitting room and bedrooms was very inadequate. This is shown in Table 6.

**Table 6: Aggregated data on natural ventilation in the sitting room and bedrooms in the estates**

Value label	Frequency	Valid Percent	Cumulative Percent
Very inadequate	1	.3	.3
Inadequate	5	1.7	2.1
Undecided	5	1.7	3.8
Adequate	186	64.8	68.6
Very adequate	90	31.4	100.0
Total	287	100.0	

Source: Fieldwork (2023)

Analysis of aggregated data on natural lighting in the sitting room and bedrooms in the estate. The data analysed demonstrated that most of the respondents indicated that the sitting room and the bedrooms in the estates had adequate natural lighting as displayed in Table 7.

**Table 7: Aggregated data on natural lighting in the sitting room and bedrooms in the estates**

Value label	Frequency	Valid Percent	Cumulative Percent
Very inadequate	4	1.4	1.4
Inadequate	7	2.4	3.8
Undecided	11	3.8	7.7
Adequate	179	62.4	70.0
Very adequate	86	30.0	100.0
Total	287	100.0	

Source: Fieldwork (2023)

**Analysis of aggregated data on good toilet and bathroom facilities in the estates**

The study conducted shows that 37.6% of the respondents reported that the toilet and bathroom facilities were adequate while 31.0% of the respondents reported that they were inadequate and 3.5% reported as very inadequate. Table 8 shows this.

**Table 8: Aggregated data on good toilet and bathroom facilities in the estates**

Value label	Frequency	Valid Percent	Cumulative Percent
Very inadequate	10	3.5	3.5
Inadequate	89	31.0	34.5
Undecided	55	19.2	53.7
Adequate	108	37.6	91.3
Very adequate	25	8.7	100.0
Total	287	100.0	

Source: Fieldwork (2023)

**Aggregated data analysis of waste disposal facilities in the estates**

From the analysis, there was a high level of inadequate waste disposal facilities in the estate which was reported by 31.7% of the respondents while 21.3% of the respondents reported the level of adequacy as just adequate. Table 9 displays the result.

**Table 9: Aggregated data on waste disposal facilities in the estates**

Value label	Frequency	Valid Percent	Cumulative Percent
Very inadequate	19	6.6	6.6
Inadequate	91	31.7	38.3
Undecided	106	36.9	75.3
Adequate	61	21.3	96.5
Very adequate	10	3.5	100.0
Total	287	100.0	

Source: Fieldwork (2023)

**Analysis of aggregated data on external lighting in the estates**

The analysis showed that inadequate external lighting has the highest response 30.3% as experienced by the residents in the estate. 27.5% of the respondents indicated that they experienced adequate external lighting features for use at night (see Table 10).

**Table 10: Aggregated data on external lighting in the estates**

Value label	Frequency	Valid Percent	Cumulative Percent
Very inadequate	30	10.5	10.5
Inadequate	87	30.3	40.8
Undecided	78	27.2	67.9
Adequate	79	27.5	95.5
Very adequate	13	4.5	100.0
Total	287	100.0	

Source: Fieldwork (2023)

**Test of Hypotheses**

The variables - ‘state of floor finish’, ‘state of repair of external walls’ and ‘state of repair of the roof’ (SFWR) were chosen and made a composite variable to represent the physical conditions of the building unit. Then, these variables ‘Protection against insects and pests’, ‘Natural ventilation in the sitting room and bedrooms,’ ‘Natural lighting in the sitting room and bedrooms’, ‘Good toilet and bathroom facilities’, Waste disposal facilities’, ‘External lighting in the estate’, ‘Adequacy of the road network within the estate’ (AVLTW) were chosen and made a composite variable to represent housing quality. They were chosen for this analysis. The two variables are of interval variable category (composite variables were treated as interval variables). Therefore, Pearson’s product-moment correlation analysis tool was used to test the significance of the relationship. The result from the analysis carried out indicated a Pearson’s correlation

coefficient value of 0.201, with a significance probability point of 0.001. The implication of this is that a weak relationship exists between the two variables and this significance probability point of 0.001 indicates it is significant at 5% (95% compliance). It consequently means that the relationship is weak but significant. The null hypothesis is thus, rejected and the alternate hypothesis accepted, which is that: *'There is significant relationship between the physical conditions of building units and the housing quality in Imo State Housing Corporation (IMSHC) estates in Owerri Capital Territory'*. The results are presented in Table 11.

**Table 11: Pearson's Product Moment correlation analysis result of the relationship between SFWR and AVLTW**

		Housing Quality
Physical condition of the building	Pearson Correlation	.201**
	Sig. (2-tailed)	.001
	N	287

*Source: Fieldwork (2023)*

From the results of the analysis of data gathered, it was established statistically that there is a significant relationship between the physical conditions of building units and the housing quality in Imo State Housing Corporation (IMSHC) estates in Owerri Capital Territory. This, therefore, implies that the physical conditions of the building units affect the housing quality within the population of study. This agrees with Olotuah (2006) as well as Olukolajo, Adewusi and Ogungbenro, (2013) which noted that the state of housing conditions is a vital determining factor of the level of housing quality. It should also be noted that the physical conditions of the housing unit play a major role in housing quality which invariably affects resident's health status. Turunen, Paanala, Villman, Nevalainen and Haverinen-Shaughnessy, (2010) corroborated this finding and stated that a wide variety of housing features have been reported to influence the physical, social, economic and mental well-being of occupants. Umeora and Ike (2021) also posited that housing units ought to be kept structurally and aesthetically sound to ensure an adequate level of quality.

### CONCLUSION AND RECOMMENDATIONS

The study showed that the physical conditions of building units affect housing quality in Imo State Housing Corporation (IMSHC) estates in Owerri Capital Territory. A good state of physical conditions of building units, which in turn affects housing quality, is therefore vital. Furthermore, there is a need to improve the physical elements of the housing estates to realise good housing quality. IMSHC which is saddled with the responsibilities of providing and maintaining housing estates should therefore ensure that they sustain good conditions of the building units. This can be achieved in collaboration with the residents of the estates. This will preserve, not only the visual appeal of the estates but also the well-being of the residents. IMSHC should also put in place a mechanism to ensure regular maintenance in the estate at all times, as poor maintenance of the

building elements would lead to poor housing conditions and invariably unacceptable levels of housing quality.

The IMSHC which is saddled with the responsibilities of providing and maintaining housing estates should ensure that they sustain good conditions of the building units. This can be achieved in collaboration with the residents of the estates, to preserve the visual appeal of the estates and wellbeing of the residents. The IMSHC should specify, during the design stage of housing estates, the type of wall finishes (as part of the specification writing) to be used on the façade of buildings. 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 income resident to live in a house with tiles or marble as the wall finish, it would be understandable that the occupant might find it challenging to replace the tiles when broken; thus, leading to poor physical conditions of the building unit, and by extension, poor housing quality. This may not be the same situation for a high-income earner. They should also track performance by regular visits and interactions with the residents. Some form of encouragement or incentives might be provided for the staff of IMSHC who ensure that estates assigned to them remain in good condition. The information gained through this feedback system would then be used to guide them towards achieving an effective management system.

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