Relationship between Housing Management and Housing Conditions in Imo State Housing Corporation Estates in Owerri, Nigeria

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ABSTRACT

Housing conditions are acknowledged as important factors that determine the habitability of buildings. This was why this study investigated the relationship between housing management and housing conditions in Imo State Housing Corporation (IMSHC) estates in Owerri Capital Territory, Imo State, Nigeria, with a view to obtaining vital feedback which can be used for gauging and improving housing conditions in the study area. A survey design method was applied with a focus on five IMSHC estates 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 were collected from these using questionnaires. The variables, 'Flaking/Peeling wall finish' and 'Availability of procedures for maintenance operations', representing housing condition and housing management system respectively, were selected for this analysis. The two variables are of nominal variable category; therefore, the Chi-square test of independence analysis tool was applied towards examining the significance of the relationship. It was established that there is a significant relationship between Flaking/Peeling wall finish' and 'Availability of procedures for maintenance operations' in the study area. It is recommended that for prompt maintenance of facilities in buildings, the residents should undertake it. For maintenance of facilities in the neighbourhood, IMSHC should undertake that. Moreover, there should be a legal provision to enable residents of IMSHC estates to enforce maintenance activities in the environment. The time taken to respond to residents' complaints should be improved upon by ensuring prompt response to grievances.

Keywords: buildings, habitability, housing conditions, housing management, maintenance

INTRODUCTION

Before the colonisation of Nigeria, there was no need for housing estates because residential buildings were constructed mainly to quarter family members who dwelt in huts within the family compound. Umeora (2018) noted that the colonial masters introduced housing estates to house their employees near their places of work in cities. When Nigeria gained independence, government and other organised bodies continued with this urban housing development and expanded the number of housing estates all over the country. The management and maintenance of these estates have come under scrutiny by professionals in the housing sector.

Developing countries such as Nigeria have witnessed high rates of urbanisation but these have not been accompanied by adequate increases in the rate of economic development. This fast but inadequately managed urbanisation has created a huge demand for urban housing which could not be met by the government and the organised formal sector in major Nigerian cities. As a result, 20 to 35 percent of urban housing in Nigerian cities is either dilapidated or in dire need of major repairs due to the poor housing conditions in the various housing programmes (Bello & Egresi, 2017; 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 resultant effect of this 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. This was corroborated by Aotearoa (2009) as cited in Umeora (2020a).

Housing condition is a vital influential factor of the habitability of buildings as it shows the level of resident's well-being. Isma'il et. al. (2015) posited that there are severe housing shortages in urban centres caused by poor housing conditions. This manifests in the high number of people living in public quarters that lack basic physical and social amenities. Housing conditions refer to the sum of external effects (natural and man-made) that make the housing units comfortable for the inhabitants. They play a major role in the health status of occupants as they impact the physical, social, economic, and mental well-being of occupants (Turunen et. al, 2010). The World Health Organisation (WHO) also stated that housing should be able to minimise the following for the occupants: physical injury, protracted diseases, as well as reduce psychological and social stresses to the barest minimum.

The Imo State Housing Corporation (IMSHC) was established under Section 3 Edict No. 14 of 1976. IMSHC has the mandate to design and supervise the construction of houses, the acquisition of houses, the management of housing

estates, rental to the members of the public, maintenance of buildings, and other infrastructure needed for the proper functioning of the estates (Imo State Housing Corporation). Some of the IMSHC estates in Owerri were developed over 30 years ago, and it seems the management agency that has the responsibility of monitoring and supervising the activities of the estates has not lived up to its expectations. The managers of the estates, judged by their primary duty of ensuring that the building units in the estates and the facilities do not deteriorate, have fallen short of expectation. The dwelling units lack maintenance operations, and this has resulted to evident decay in quality of the various housing estates.

When housing estates are poorly or inadequately managed, tragic consequences, such as ill-maintained buildings, poor sanitation, and various environmental health hazards could emanate. Okoye et al. (2018) affirmed that management of waste in the environment is crucial for healthy living. Ibem et al. (2013) noted that housing enables occupants to carry out different activities – work, rest, leisure, fitness and social interactions in the neighbourhood. Muoghalu (1987), as cited in Umeora (2018), posited that of all the dimensions of housing, management is the most crucial in explaining level of satisfaction of residents. Maintenance level, empathy, responsiveness and strictness were identified as the major components of managerial competence. Therefore, proper housing management is indispensable for keeping the buildings and amenities in serviceable conditions to ensure residents' satisfaction and good housing conditions (Hui, 2005).

The Owerri Capital Territory has, over the years, witnessed the migration of people from different parts of Nigeria. Consequently, some housing estates have been put under pressure. Some of these estates lack basic amenities such as electricity, water drainages, potable water, proper waste disposal systems, and good roads; instead, what one sees there are bad roads, defaced facades, and broken roofs, among other signs of inadequate maintenance. The lack and inadequacy of these affect the housing conditions. Additionally, poor housing conditions and quality are associated with health conditions such as respiratory diseases, depression, nausea, allergic symptoms, hypothermia, and physical injury.

Some human activities in Imo State Housing Corporation estates, such as poor drainage planning, building along the drainage profile and blocking of drainage channels, and lack of coordinated maintenance management activities 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, and algae growth on the walls, and runoff of surface water causing erosion in the environment. Salleh et al. (2012) identified some management issues which have impact on housing conditions and residents'

level of satisfaction in housing; they include the following: occupants' selection procedures, laws implementation, time taken to respond to residents' complaints, environmental security and overall quality of maintenance carried out by the management.

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 conditions in the study area. For this particular study, the objective was to investigate the relationship between housing management and housing conditions in Imo State Housing Corporation Estates in Owerri, Nigeria. A null hypothesis was put forward which sought to establish the significant relationship between housing management system and housing conditions in the estates. It stated that there is no significant relationship between housing management and housing conditions in Imo State Housing Corporation Estates in Owerri, Nigeria.

Area of Study

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. 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). Figure 1 shows the map of Nigeria showing 36 States and the study area.
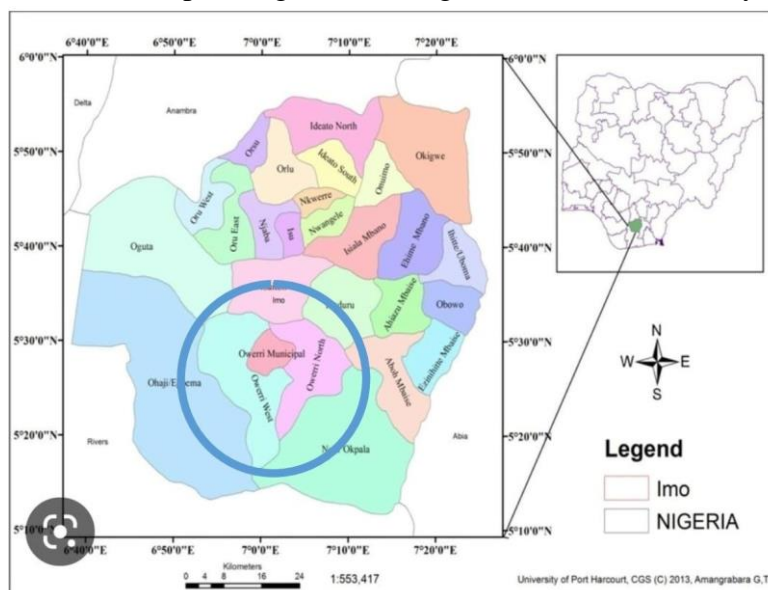

Figure 1: Map of Nigeria showing Imo State and the study area (Owerri Capital Territory) *Source*: Chukwu (2024)

Owerri Capital Territory is approximately 100 square kilometres in area. 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. 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.

LITERATURE REVIEW

There is a consensus that management/institutional framework plays a key role in housing policy formulation and implementation (Ibem, 2011). Management is usually inspired by the need to be cautious in the usage of assets and judicious in the usage of time in attaining pre-stated objectives. Obodoh (2009) defined management as the scheduling, coordination, and control of the essential resources for the achievement of stated goals. The relationship between the management system of housing and the residents exerts a great impact on housing quality. If there is a cordial relationship between them, matters of maintenance of infrastructure will be addressed timely to reduce dilapidation. Issues under management variables are the type and quality of services rendered by the managers, time taken by the managers in treating residents' complaints and ensuring environmental sanitation.

The Imo Housing Corporation has the mandate to control and manage the development of housing units and perform such other functions as the Commissioner of Housing and Urban Development may direct. Those functions may also include to design and supervise housing programmes for the state government; award contracts for the development of housing estates, assess infrastructure needed in layouts of housing estates owned or managed by the corporation; oversee the maintenance of buildings, roads, footways, bridges, drains, sewers and water courses for or in connection with housing estate owned or managed by the Corporation (Imo State Housing Corporation, n.d.).

To assist the harmonisation between residents in running some of the shared facilities of housing, a certain level of organisation from the management is necessary. Although there is mounting interest in research examining the effects of management on housing performance, few works have looked at the correlation between housing management systems and housing condition (Aotearoa, 2009). Given that most housing schemes are constructed to stipulated standards, the buildings and facilities in the estates generally perform optimally at that new state, until they start to deteriorate when subjected to inhabitation and usage. Therefore, appropriate maintenance and management of amenities in the housing estates are crucial for keeping the amenities in functional conditions to ensure residents' satisfaction (Hui, 2005).

Some of the stipulated standards of housing condition address: aesthetics, sanitation, drainage, age of the building, access to basic housing facilities, burglary, spatial adequacy, noise level within the neighbourhood, sewage and waste disposal, air pollution and ease of movement, among others. Lanrewaju (2012) noted poor housing condition in public housing programmes in maintenance of facilities within the estate as well as poor management approach towards residents' problems in the estate. Salleh, Yosuf, Salleh and Johari (2012) identified management issues which have impacted housing conditions in housing estates, including the sociability of the managers, residents' selection procedures, implementation of bye-laws, time taken to respond to residents' complaints, security of the neighbourhood and quality of maintenance works done by the managers.

METHODOLOGY

The research design for this study was survey design, and it was accomplished 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, n.d

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 above-stated criteria.

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, 2022

Following the categorisation, 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)

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

Where n = size of sample for finite population; N = research population = 1484 housing units; σ 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 3.

Table 3: Respondents Population in Sampled Estates

	Aladimma Estate	**Uratta Road**	**Prefab**	**City Garden**	**Trans-Egbu**
Housing Units	556	310	267	10	341
Sampled	114	64	55	2	70

Source: Fieldwork, 2022

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 Availability of procedures for maintenance operations in the estate

From the data gathered, 90.2% of the respondents indicated that there was no available procedure for maintenance operations in the estates. This could be part of the reasons why there was a decline in the housing quality in the area (See Table 4).

Table 4: Aggregated Data on Availability of procedures for maintenance operations in the Estate

Value label	Frequency	Valid Percent	Cumulative Percent
Yes	28	9.8	9.8
No	259	90.2	100.0
Total	287	100.0	

Source: Fieldwork, 2023

Analysis of aggregated data of Management of maintenance of facilities in the estate

The data analysed revealed that most of the respondents pointed out that management of maintenance of facilities in the estates was handled by the

residents while 7% showed that IMSHC managed the facilities. See Table 5 for details.

Table 5: Aggregated Data on Management of maintenance of facilities in the Estate

Value label	Frequency	Valid Percent	Cumulative Percent
IMSHC	2	.7	.7
Residents	270	94.1	94.8
Both parties	15	5.2	100.0
Total	287	100.0	

Source: Fieldwork (2023)

Analysis of aggregated data of Communication channels in the estate

The results collected indicated that most of the respondents communicated with the housing corporation by visiting the office. A few of the respondents stated that they communicated with the IMSHC either by phone calls or SMS. Table 6 shows this.

Table 6: Aggregated Data on Communication Channels in the Estate

Value label	Frequency	Valid Percent	Cumulative Percent
SMS	1	.3	.3
Phone calls	16	5.6	5.9
Visit to office	241	84.0	89.9
Internet	1	.3	90.2
All of the above	28	9.8	100.0
Total	287	100.0	

Source: Fieldwork (2023)

Analysis of aggregated data of Duration to react to Resident's complaints in the estate

The data analysed indicated that it took between 4-6 days to react to resident's complaints as noted by the majority of the respondents. 36.9% of the respondents agreed that it took more than six (6) days for IMSHC to react to their complaints. Table 7 shows this.

Table 7: Aggregated Data on Duration to React to Resident's Complaints in the Estate

Value label	Frequency	Valid Percent	Cumulative Percent
1-3 days	17	5.9	5.9
4-6 days	164	57.1	63.1
more than 6 days	106	36.9	100.0
Total	287	100.0	

Source: Fieldwork (2023)

Analysis of aggregated data on the Regularity of Corporation visits to the estate

From the data gathered, it could be seen that most of the respondents (35.9%) confirmed that the regularity of the corporation's visit to the estate was twice a year while 31.0% agreed that the regularity of the corporation's visit to the estate was quarterly and 18.8% of the respondents accepted once a year. This is illustrated in Table 8.

Table 8: Aggregated Data on Regularity of Corporation Visits to the Estate

Value label	Frequency	Valid Percent	Cumulative Percent
Monthly	10	3.5	3.5
Bi-monthly	24	8.4	11.8
Quarterly	89	31.0	42.9
Twice a year	103	35.9	78.7
Once a year	54	18.8	97.6
Others	7	2.4	100.0
Total	287	100.0	

Source: Fieldwork (2023)

Analysis of aggregated data on the Availability of Security in the estate

The investigation revealed that 57.1% of the respondents confirmed the availability of security measures in the estates within the study area as shown in Table 9.

Table 9: Aggregated Data on Availability of Security in the Estate

Value label	Frequency	Valid Percent	Cumulative Percent
Yes	164	57.1	57.1
No	123	42.9	100.0
Total	287	100.0	

Source: Fieldwork (2023)

Analysis of aggregated data of Arrangement of Security in the estate

It could be observed that the majority of the respondents indicated that the arrangement of security in the estate was handled by residents (individuals). Few of the respondents noted that security arrangement was done centrally by the estate (See Table 10).

Table 10: Aggregated Data on Arrangement of Security in the Estate

Value label	Frequency	Valid Percent	Cumulative Percent
Estate Central	56	19.5	19.5
Individual	209	72.8	92.3
Both	22	7.7	100.0
Total	287	100.0	

Source: Fieldwork (2023)

Analysis of aggregated data of Management of Central Security in the estate

The data collected showed that the majority of the respondents stated that management of central security in the estate was done by the residents. A few of the respondents stated that IMSHC managed security in the estates while a minute percentage (1.7%) stated that the government managed security arrangements. Table 11 shows this.

Table 11: Aggregated Data on Management of Central Security in the Estate

Value label	Frequency	Valid Percent	Cumulative Percent
IMSHC	6	2.1	2.1
Estate Residents	276	96.2	98.3
Government	5	1.7	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 (41.5%) of the external walls were in a bad state of repair while the external walls in a good state of repair were less at 38.3%. Table 12 shows the details. This means that the buildings in a bad state of external wall repairs were in a poor state, and they were not fit for human inhabitation.
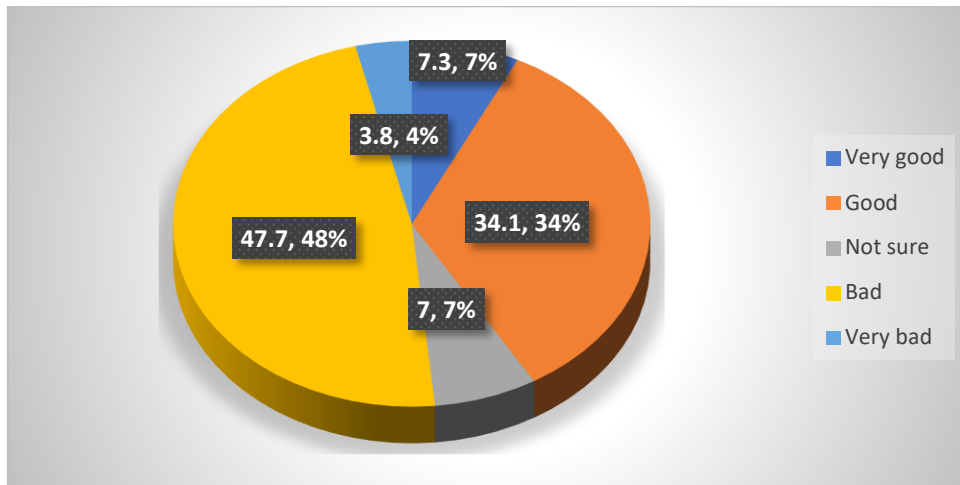
Table 12: Aggregated Data on the State of repair of external walls in the buildings

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 in 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 most of the roofs were in a bad state and needed urgent repairs and improvement. Figure 2 illustrates this.

Figure 2: Aggregated Data on the State of repair of roofs in the buildings
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, as reported by 31.7% of the respondents; 21.3% of the respondents reported that waste disposal facilities were adequate. Table 13 displays the result.

Table 13: Aggregated Data on Waste Disposal Facilities in the Estate

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 of State of repair of buildings

It can be observed from Table 14 that most of the respondents stated that the buildings in the estates were in a bad state of repair and 26.8% of the respondents stated that the buildings were in a good state of repair. This revealed that most of the buildings were in poor condition and unfit for human dwelling.

**Table 14: Aggregated Data on the State of repair of building in the buildings**

Value label	Frequency	Valid Percent	Cumulative Percent
Very good	14	4.9	4.9
Good	77	26.8	31.7

Not sure	69	24.0	55.7
Bad	115	40.1	95.8
Very bad	12	4.2	100.0
Total	287	100.0	

Source: Fieldwork 2023

Analysis of aggregated data of Flaking/Peeling wall finish used in the housing estates

Most of the respondents indicated that the paint on the internal walls was peeling off. This implies that a greater proportion of the buildings have their paint peeling off as shown in Figure 3. It implies that most of the buildings need to be repainted to improve their aesthetic appearance.
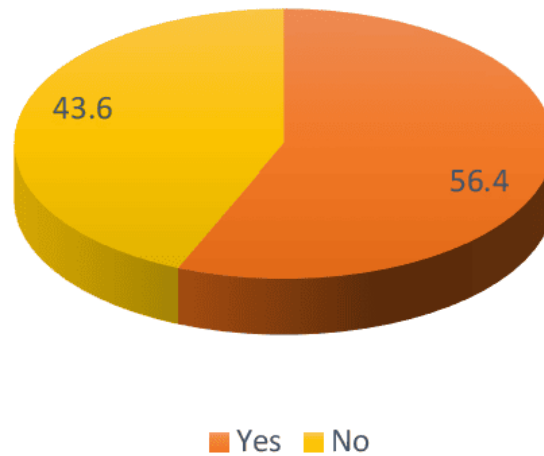
Figure 3: Data on Flaking/Peeling wall finish used in the Housing Estates.
Source: Fieldwork (2023)

Test of Hypothesis

The variables 'Flaking/Peeling wall finish' (PWF) and 'Availability of procedures for maintenance operations' (APMO) were selected for this analysis. The two variables are of nominal variable category; therefore, the Chi-square test of independence analysis tool was applied towards examining the significance of the relationship.

The result from the analysis carried out showed 0.776 as the Chi-square value, with a Df value of 1 and a p-value of 0.038 as presented in Table 15. This p-value of 0.038 is less than the chosen α-value (i.e., acceptable significance level) of 0.050 for this research, implying therefore that it is accepted as significant. It is established, hence, that the relationship that exists between the two investigated variables can be stated to be statistically significant for this study. The alternate hypothesis, which states that *'There is significant relationship between Flaking/Peeling off wall finish and 'Availability of procedures for maintenance operations in Imo State Housing*

Corporation (IMSHC) estates in Owerri Capital Territory', is thus accepted.

Table 1: Result of Chi-square test of independence analysis of relationship between *PWF* and *APMO*

		Availability of procedures for maintenance operations
Flaking/Peeling wall finish	Chi-Square	0.776[a]
	Df	1
	P-Value	.038

Source: Fieldwork (2023)

CONCLUSION AND RECOMMENDATIONS

The study showed that the housing management affects housing condition in Imo State Housing Corporation (IMSHC) estates in Owerri Capital Territory. Obodoh (2009) stated that the relationship between managers of housing estates and the residents exerts a great impact on housing quality. If there is an amiable relationship between them, issues of maintenance will be addressed timely to reduce dilapidation. Hui (2005) stated that a proper management system is essential for keeping the housing in serviceable conditions to ensure good quality at all times.

No system can function adequately without a proper management system, housing estates inclusive. The management can be made up of administrative and technical staff. The latter, which should be made up of professionals in the building industry, should be included in the planning and design of the estates. The former should see to the running of the estates by ensuring that the guidelines established are kept to by residents. They should carry out supervisory roles in conjunction with technical staff to get feedback from the residents. While investigating the management systems and housing conditions in the area of study, it was proven that there is significant relationship between flaking/peeling off of wall finish and the Availability of procedures for maintenance operations in Imo State Housing Corporation. It is also noted that the availability of procedures for maintenance operations had significant correlation with the state of repair of external walls. Therefore, it is recommended that:

i. For prompt maintenance of facilities in buildings the residents should undertake it. For maintenance of facilities in the neighbourhood, IMSHC should undertake that. There should be a legal provision to enable the residents to enforce maintenance activities in the environment by IMSHC. To lessen abuse of the residents, there should be a provision to enable the residents to withhold rent or annual development fee paid to compensate for maintenance executed by them in the event of delays by the estate managers.

ii. The time taken to respond to residents' complaints should be improved upon by ensuring prompt response to complaints. From the analysis done, it was evident that it takes more than a week to respond to residents' complaints. This situation should be reversed by taking into consideration other means by which the IMSHC could attend to various complaints by the residents. This may be by having a liaison office within the estate where residents can also drop comments and suggestions. Leveraging on this, the feedback system is guaranteed, leading to a working partnership between IMSHC and the residents, which is useful.

These recommendations, if implemented, could lead to an increased level of housing quality in the IMSHC estates.

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