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Satisfaction with Maintenance of the Public Sector Employee Housing Schemes in Lagos State, Nigeria

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Abstract. The Public sector employee housing is a kind of housing arrangement, which accentuates the role of the employer (government as well as its agencies) in assisting to deliver housing, mainly for the public sector workers. However, not much is known of the occupants' satisfaction with the maintenance features of housing provided through this scheme in a large metropolitan area such as Lagos State. This study investigated the Maintenance Satisfaction features in nine public-sector employee housing estates in Lagos state, Nigeria. A cross-sectional survey research design involving quantitative research approach was adopted. The survey was carried out between September, 2020 and March, 2021. Using stratified sampling technique, the estates were grouped into the local government area. Cluster sampling was used to select the local government area. Also, purposive sampling technique was used to select 688 housing units in the nine purposively selected housing estates. 500 copies of the administered questionnaire were correctly filled and returned by the participants and the information were subjected to descriptive statistics. Statistical package for Social Science (SPSS) was used to analyze the data. The results pointed out that the respondents were most satisfied with the promptness of response to security issues in the estate, frequency of collection and disposal of refuse, frequency of maintenance of power supply facilities and least satisfied with the frequency of maintenance of roads within the estate, frequency of maintenance of drainage facilities and frequency of fumigation of the estate environment. Therefore, to improve maintenance satisfaction of inhabitants in public sector employee housing schemes, the key stakeholders such as the architects, builders and so on should give priority attention to the key features that ensure residents' satisfaction.

Keywords: Maintenance Satisfaction, Public Housing, Public sector employee Housing, Survey, Lagos State.



1. Introduction

In recent times, employers of labour have been encouraged to deliver housing for their workers through Nigeria's housing policies. Thus, Private sector and public sector employees have manufactured numerous housing estates for employees. The Public sector employee housing is a kind of housing arrangement, which accentuates the role of the employer (government and its parastatals) in assisting to deliver housing, principally for the public sector workers. It is a sub-set of public housing which is the housing delivered by the government, especially for those who may lack the required means to acquire decent housing for themselves. In Nigeria, the housing problem have manifested in both quantitative and qualitative form. The qualitative form deals with the maintenance of the existing housing. This is probably why housing maintenance is so important because of the role it plays to maintain the existing housing and upgrade it to satisfactory excellence. Succinctly put, housing maintenance can be explained as preservation and restoration of the building constituents such as substructures, super structures, water supply systems and elevators to make the dwellings function properly[1].

Research has established a link between satisfaction with housing maintenance and quality of life. This is probably because the condition of housing is a function of its maintenance. Hence, the condition of housing influences resident's satisfaction with maintenance. Surprisingly, it should also be noted that the occupants generate these defects to the building components by their natural buildings use which leads to normal wear as well as tear as envisaged in the building plan and specification and their abuse of buildings, mainly through vandalism, which leads to willful destruction to a building. In addition to that, whether the residents are in charge of maintenance or not, the fact still remains that they have relatively great stake in maintenance of their houses. In other words, the residents have a major role to play in maintaining their housing thereby determining the significance and satisfaction level they get from it.

Furthermore, residents also have a part to play in gauging the efficiency of maintenance approaches to deliver response to the stakeholders involved in the conceptualizing, development and maintenance of the housing units. Hence, housing maintenance performance can be measured through resident's satisfaction. One part of residential satisfaction that has gotten significant research consideration is maintenance (dis)-satisfaction. According to [2], maintenance satisfaction relates to how inhabitants evaluate the maintenance and management of their housing environment. Hence, in the current study, maintenance satisfaction was explained as the degree to which individuals are pleased or displeased with maintenance of their housing environment.

Several studies have investigated resident's satisfaction with the maintenance of housing. For instance, in Hong Kong, [3] conducted a survey on user's satisfaction with building maintenance in public housing. In another study, [4] explained the connection between facilities maintenance level and Satisfaction level with the housing conditions in Slovenia and Serbia. Also, in Malaysia, [5] investigated how maintenance of lift system influence inhabitant's satisfaction in affordable multi-storey residential buildings. In Gaza, Palestine, [6] investigate the impact of occupants' involvement in management as well as maintenance activities on inhabitants' satisfaction in new multi-storey housing projects. [2] investigated renters' maintenance knowledge and

understanding, roles and satisfaction in institutional housing in Nigeria. To the best of the researcher's knowledge, since there was no study on resident's satisfaction with maintenance of public sector employee housing scheme in Lagos State, this study tries to fill this gap. It is in this regard that this study investigated the satisfaction with maintenance of the Public Sector Employee Housing Schemes in Lagos State, Nigeria. This was with a view to make suggestions on those parts of maintenance features that should be reinforced to improve the satisfaction of residents in public sector employee housing schemes. The study makes addition to knowledge by pointing out the particular areas that must be given more attention to in the maintenance of the estates to ensuring that Public sector employee housing developments contribute to resident's Satisfaction in Nigeria

2.Literature review

2.1Concept of Housing Maintenance

Building maintenance and management is a process comprising of the collaboration or arrangement of social, technical, legal and fiscal factors that manage as well as oversee the buildings usage(7; 8; 5). In addition to that, [9] stated that the building life cycles and its services can be extended through a good maintenance process. Also, preventive maintenance and corrective maintenance are the two major classification of maintenance. Preventive maintenance is carried out during the design and conceptualization of the housing project, while the corrective is done to correct the defects in the building after it has been occupied for a period of time. Building maintenance is a complex procedure and expensive but if it is done appropriately it could save money as well as extend the building lifespan. Housing maintenance consumes time and money of the various stakeholders like tenants, landlords, maintenance managers and so on. Tenants also play a fundamental role in the maintenance cost of the buildings. Tenants contribute to the maintenance cost through the use of the building and the vandalism of the various components of the building. Also, the housing maintenance cost is comparatively expensive due to substandard maintenance practices. However, the most challenging task encountered by facility manager is to hand-picked the most suitable maintenance approach and methodology to use that will ensure that the overall cost of maintenance is reduced while ensuring building are adequately maintained

2.2 Studies on Maintenance Satisfaction

Residential Satisfaction, as explained by [10], is the sense of happiness which one has or attains what one's needs or desires in a house. [2] went further to state that satisfaction with housing maintenance is a subset of residential satisfaction. Hence, in this present study, maintenance satisfaction was explained as the degree to which inhabitants are pleased or unhappy with maintenance of their housing. Housing maintenance, as explained by [11], is the preservation and restoration of the building components and services items to achieve functionality and aesthetic purposes. It has also been revealed that proper maintenance is essential to elongate the housing constructions life span as well as suspend the necessity for redevelopment of new building. Due to the fact that resident's use most of the time inside the housing, residential building's aesthetics, function and condition should be satisfactory. if inhabitant pays for the dwelling unit, the inhabitants will care more about maintaining the house. Hence, individuals will be more pleased about the management and maintenance of their housing. [11] pointed out that inhabitant participation in housing maintenance takes time as well as money, but it guarantees inhabitants

satisfaction with the housing. [7] has debated in support of participation of tenant in this vital activities to improve satisfaction of tenants with maintenance systems.

Some studies have considered housing maintenance satisfaction as a component of residential satisfaction (12; 13;14; 15).Several other studies have also investigated occupants' satisfaction with respect to the maintenance of their housing environment. For instance, A study by [2] investigated occupants' awareness, their responsibilities and their satisfaction with institutional housing units in Nigeria, and the findings revealed that occupants were generally averagely satisfied with the maintenance of the housing units and that the residents also had a high level of awareness with regards to their responsibility in building maintenance. In Gaza, Palestine, [6] in another study investigated the connection between residents' involvement in the building management and maintenance and the satisfaction in new housing projects. The findings showed that there was a substantial connection between the extent of their participation and the extent of satisfaction. [5] investigated how the maintenance strategies used for the lift systems in low-cost residential buildings affected occupants' satisfaction. The conclusion was that willful destruction of the lift systems was the most prevalent cause of it breakdown and that there was a connection between the lift breakdown rates and the satisfaction of the building occupants. In Slovenia and Serbia, [4] considered the connection between residents' satisfaction with the living environment and the maintenance of the facilities in that environment. The conclusion from that study showed that all the participants were very satisfied with the housing conditions and the level of maintenance carried out. This study also showed the influence of housing quality with regards to building construction and maintenance to the resident's sense of satisfaction as it impacted positively on the residents with respect to security, thus emphasizing the effect of building maintenance on overall occupant's satisfaction. [16] analyzed and evaluated the overall cost of building maintenance by using the loss-distribution approach (LDA) and the approach is usually employed by financial organization in accessing risk with regards to operation. This approach was used to analyze over 7000 historical maintenance data for over 1,900 Housing complexes located in South Korea. Maintenance activities carried out between 11 to 20 years after building construction was seen to have a major impact on the overall cost and its high occurrence was due to building upgrades due to fire safety equipment replacement and also upgrade of electrical equipment and the re-painting of building structures. Another Study by [3] on user satisfaction on maintenance of building structures carried out in Hong Kong showed that dimensions of "reliability" and "tangibility" have the largest inconsistency with regards to user's expectation level and their perception level. Though this study was mainly connected to issues of disturbance as reported by occupants from contractors in charge of maintenance activities. The study showed that there was a need for adequate resource planning with regards to manpower to reduce the negative impact of residents.

From all the various studies reviewed, it was deduced that there was a very slim chance of arriving at a broad-based conclusion on the results of all these studies on building maintenance satisfaction by residents in the various countries in which these studies were carried out. This can be attributed to the fact that of all the diverse factors identified, variables that had a profound effect on a set of studies where less significant in others. These inconsistencies can be attributed to a number of parameters that includes but are not limited to the following: (i) The different variable used, (ii) Question posited for the research, (iii) The various analysis used in each study.

3. Material and Methods

The information used in this survey were gotten from a part of the questionnaire used for a larger investigation to assess the outcomes of public sector employee housing scheme in Lagos State, Nigeria. Cross-sectional survey was the research design and it was done between September, 2020 and March, 2021. The Housing estates picked for the inquiry were those under the Lagos State staff housing board. The research population is made up of residents in 1148 dwelling units in 48 housing estates/locations under the Lagos Staff Housing Board with household heads as respondents. Multistage sampling was used in this study. Using stratified sampling, the public sector employee housing units were grouped into local governments area of Lagos state (Agege, Ifako-Ijaiye, Oshodi–Isolo, Amowo-Odofin, Ikeja, Ikorodu, Mainland, Island, Surulere, Kosofe Local Government, Badagry). Cluster sampling was used to select six (6) local government areas out of the listed eleven (11) local government areas that have the public sector employee housing units. These local government areas were selected due to the high concentration of civil servants in these location and the high population of Lagos citizens within the local[17].The local government selected include Agege, Ifako-Ijaiye, Oshodi–Isolo, Amowo-Odofin, Ikeja, Ikorodu local government areas. Also, purposive sampling procedure was used in picking the housing unit within these local governments due to the limitation of access to some of these housing estates (see Table 1). The purposive sampling technique was then adopted in picking the housing units, and this provided the researcher the opportunity to pick all available housing units in the nine selected residential estates that is representative of the research population. Therefore, the total sample size calculated for the study was 688 units.500(72.6%) copies of the questionnaire were retrieved and used in the analysis

Explicitly, neighborhood socio-economic environment features were identified through the literature search on the subject area. and the results gotten was used in framing the questions used in the survey forms. The literature search showed that 12 variables for evaluating the satisfaction with physical environment' features. In the investigation, the participants were asked to specify the extent of satisfaction of the parameters based on the 5-point Likert scale with 1= Very dissatisfied, 2= Dissatisfied, 3= Not Sure, 4=satisfied, and 5= Very satisfied. The research was associated with the distribution of well-thought-out and pre-tested questionnaire to the family heads or representatives of each dwelling units in the estates surveyed. All 688 copies of questionnaire were disseminated (see Table 1). A total of 500 copies were reverted as well as analyzed. This signified around 73% rate of response.

With regards to the analysis of data, the 13 parameters were first assessed through graphical statistics (descriptive) to show the mean satisfaction scores, representing the average satisfaction score given by all the respondent. Statistical package for social science(spss) was used to analyse the data. Similar studies [18;19;20;21;22] used this method.

Table 1: Estates investigated

	Local Government	Housing Estates /Location	Total Number of Units	retrieved
1	Ifako-Ijaiye	Ogba Phase 2	280	258
2	Ikeja	Hos Staff Quarters	94	32
3	Ifako-Ijaiye	Ijaiye Medium Housing	26	23
4	Ifako-Ijaiye	Lsdpc Estate Ojokoro	18	16
5	Oshodi –Isolo	General Hospital, Isolo quarters	14	5
6	Amuwo Odofin	Amuwo Odofin Low Cost	94	68
7	Ikorodu	Tos Benson Estate, Owutu, Ikorodu	98	59
8	Ifako-Ijaiye	Millenium Estate	40	20
9	Agege	Ijaiye Low Cost Pen Cinema	24	19
		Total	688	500

4. Results

Thirteen parameters were used to explore the maintenance of the housing estates sampled based on the 5-point Likert scale with 1= Very dissatisfied, 2= Dissatisfied, 3= Not Sure, 4=Satisfied, and 5= Very satisfied. The results of resident's satisfaction with maintenance of the housing estates show that the MSS for the 13 items ranged between 2.72 and 3.50 (Table 2). These mean that the residents were satisfied with items ranked from 1st to 9th position, representing 69.23% of the 13 aspects and were dissatisfied with those ranked from 11th to 12th position, representing 30.77% of the items in Table 2. In terms of their levels of satisfaction with each of the 13 items investigated, the top three aspects the residents were most satisfied with were promptness of response to security issues in the estates (MSS=3.50), followed by frequency of collection and disposal of refuse (MSS=3.49) and frequency of maintenance of power supply facilities (MSS=3.43), respectively. They were however least satisfied with the frequency of maintenance of roads within the estates (MSS=2.93), frequency of maintenance of drainage facilities (MSS=2.93) and frequency of fumigation of the estate environment (MSS=2.72), respectively (Table 2).

Regarding residents' overall satisfaction with the 13 items used to investigate satisfaction with maintenance of the housing estates the results indicate that although the highest proportion (34.4%) of the residents were not sure of whether they were satisfied with the maintenance of the housing estates or not, 34% of them expressed satisfaction with the maintenance of the housing estates, while 16.8% expressed dissatisfaction with this (Figure 1). This result indicates that about one-third were satisfied with maintenance of the housing estates

Table 2: Descriptive Statistics of Residents' Satisfaction with maintenance of the Estates

Metric of Maintenance practice	1	2	3	4	5	No response	N	Mean	Rank
Promptness of response to security issues in the estate	22(4.4)	80(16.0)	80(16.0)	222(44.4)	70(14.0)	26(5.2)	474	3.50	1 st
Frequency of collection and disposal of refuse	22(4.4)	76(15.2)	75(15.0)	245(49.0)	52(10.4)	30(6.0)	470	3.49	2 nd
Frequency of maintenance of power supply facilities	28(5.6)	77(15.4)	96(19.2)	207(41.4)	64(12.8)	28(5.6)	472	3.43	3 rd
Cost of estate maintenance charges	43(8.6)	71(14.2)	82(16.4)	209(41.8)	67(13.4)	28(5.6)	472	3.40	4 th
Frequency of cutting of grasses and lawns	42(8.4)	64(12.8)	99(19.8)	200(40.0)	66(13.2)	29(5.8)	471	3.39	5 th
Frequency at which the roads and streets in the estate are swept	33(6.6)	90(18.0)	104(20.8)	176(35.2)	68(13.6)	29(5.8)	471	3.33	6 th
Frequency of maintenance of water supply facilities	35(7.0)	107(21.4)	85(17.0)	185(37.0)	58(11.6)	30(6)	470	3.26	7 th
Promptness of response to key maintenance issues in the estate	49(9.8)	76(15.2)	120(24.0)	171(34.2)	53(10.6)	51(10.2)	469	3.22	8 th
Frequency of maintenance of street lights in the estate	71(14.2)	93(18.6)	102(20.4)	147(29.4)	53(10.6)	34(6.8)	466	3.04	9 th
Frequency of maintenance of recreational / sporting facilities	56(11.2)	106(21.2)	154(30.8)	115(23.0)	38(7.6)	31(6.2)	469	2.94	10 th
Frequency of maintenance of roads within the estate	73(14.6)	106(21.2)	113(22.6)	140(28.0)	39(7.8)	29(5.8)	471	2.93	11 th
Frequency of maintenance of drainage facilities	22(4.4)	76(15.2)	75(15.0)	245(49.0)	52(10.4)	30(6.0)	470	2.93	11 th
Frequency of fumigation of the estate environment	98(19.6)	112(22.4)	128(25.6)	90(18.0)	43(8.6)	29(5.8)	471	2.72	12 th

1= Very dissatisfied 2= Dissatisfied, 3= Not Sure, 4=Satisfied, 5= Very Satisfied, N (%)

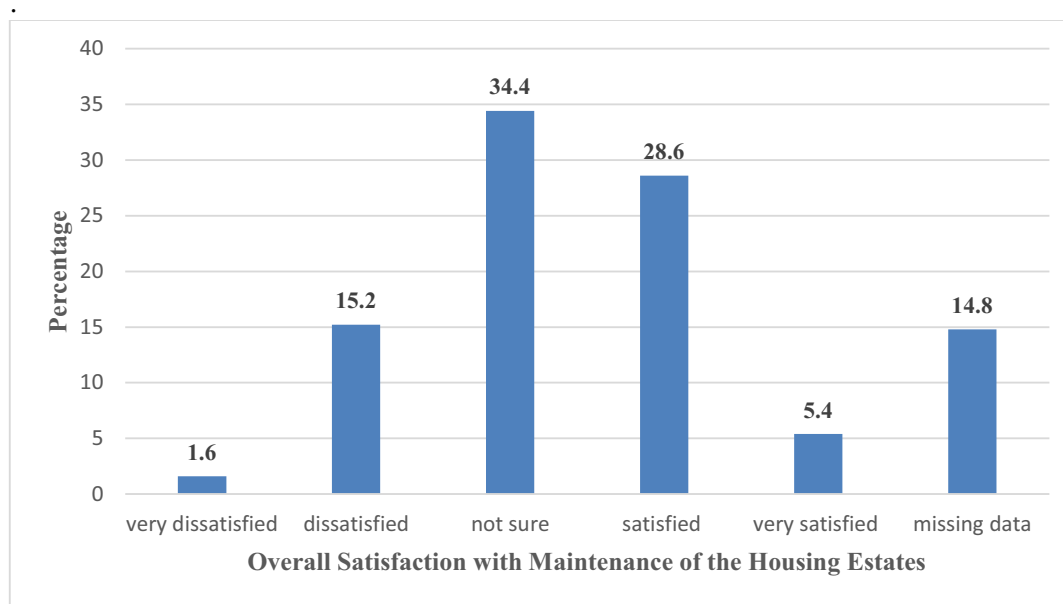


Figure 1: Residents' Overall Satisfaction with maintenance of the Housing Estates

5. Discussion

This aspect of housing satisfaction investigated is the respondents' satisfaction with the maintenance of the housing estates. It was found that only about one-third of the respondents expressed satisfaction with the management of the housing estates, this means that most of them did not express satisfaction with this. This result is in tandem with that by [12] noting that the occupants of public constructed for government workers in Abuja, Nigeria were dissatisfied with the general management of the housing estates and another research by [13], which also reported that most occupants of public housing in Lagos expressed dissatisfaction with management of the residential estates. This result seems to be similar to the finding by that [15] that occupants of affordable housing estate in Ikorodu, Lagos State, were displeased with the timing and functional elements, which are the key standard performance and maintenance benchmarks in the study. It however contradicts the findings in workers housing estate in Abeokuta, Ogun State, Nigeria, which showed that most of the residents were satisfied with management of the estate [14]. Further examination of the results pointed that a majority of the respondents were most pleased with the promptness of response to security issues in the estate, frequency of collection and disposal of refuse and cutting of grasses and lawns; maintenance of power supply facilities, cost of estate maintenance charges. However, the respondents were least satisfied with frequency of maintenance of recreational / sporting facilities, roads, drainage facilities and fumigation of the estate environment. The findings on Satisfaction with promptness to response to security issues in the estates can again be line to the earlier finding, which revealed that most of the occupants were pleased with security in their housing units and general safe keeping of live and belongings in the housing estates.

6. Conclusions and Recommendations

The study investigated the Satisfaction with the maintenance of the Public Sector Employee Housing Schemes in Lagos State, Nigeria. On the basis of these findings, the results revealed that the respondents were most satisfied with the Promptness of response to security issues in the estate, frequency of collection and disposal of refuse, frequency of maintenance of power supply facilities and least satisfied frequency of maintenance of roads within the estate, frequency of maintenance of drainage facilities and frequency of fumigation of the estate environment. Therefore, to ensure that the maintenance of the estates contribute maximally to public sector employee housing scheme, the stakeholders involved in the management and maintenance should pay satisfactory attention to the parts recognized in this research.

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