

# FACILITIES MANAGEMENT IN THE PUBLIC HOUSING ESTATE IN LAGOS NIGERIAN: IMPLICATIONS FOR SUSTAINABLE HOUSING DEVELOPMENT

By

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## Abstract

Housing provision is very important to provide adequate shelter for people, who are living now and the coming generation. Hence, there is need for maintenance of the existing stocks for sustainable housing development. The purpose of this study is to assess the management system adopted for managing facilities in the public housing estates in Lagos and the effect on sustainable housing provision. Both Iba and Ojokoro Housing Estates were chosen among the public housing estates built in early 1980. Systematic random sampling was adopted to sample 50.8% of the 199 and 45 blocks of flats in Iba and Ojokoro respectively, which accounted for 244 blocks. It was from these blocks of flats 122 respondents were sampled, one from each block, using convenience sampling method. Inspection and questionnaire surveys were carried out to collect data. The study found that the maintenance and management system adopted for the two housing estates has not enhanced sustainable housing development. This reflected in the condition of the sampled buildings, which posed a number of challenges to the residents. The poor maintenance has been attributed to the use of unqualified personnel, unethical adjustment into buildings, poor housing management system and maintenance, and age of buildings. It was in view of this the study suggests a centrally coordinated approach to housing management, instead of full decentralization, where each household handled maintenance of the flat occupied. This method will prevent the use of unqualified personnel and ensure regular maintenance of the residential buildings for sustainable housing development.

Keywords : housing, management, public, satisfaction, sustainability

## INTRODUCTION

Housing is a basic human need in every society, and fundamental right of every individual. The need to provide adequate shelter and to build a liveable human settlement is therefore critical to the achievement of sustainable urban growth and cities development. Habitable housing should be more accessible to all categories of people, regardless of socio-economic status (Nubi, 2015).

Government over the years has been demonstrating concerted effort to address housing shortage in Nigeria, particularly in the urban area. Such efforts include formulation of housing policy, such as national housing and urban development

policies (Fagbohun, 2021). The policies recognised the role of both public and private sectors in housing provision. In Lagos State, some of the public housing areas, provided under different administration, include Ojokoro, Meiran, Ipaja, Amuwo-Odofin and Iba housing estates. The private sector housing contribution is in small pocket areas (Ajetomobi and Fagbohun, 2018).

Despite drastic efforts to provide adequate housing to meet the needs of people, the shortage of housing is unabated, due to two major factors. Rapid depreciation of the available housing units could be attributed to poor management and maintenance. The lifespan of the residential buildings provided by the government has been fell short due to poor maintenance (Nubi, 2015). From the forgoing, it is paramount to ensure proper

management of housing area, and the buildings contained therein, towards ensuring good living, and to sustain housing development. Hence, the major instrument for sustainable housing provision is effective management of the existing housing stocks.

Management of housing estates entails coordination and maintenance of buildings and facilities, ensuring proper sanitation, and security of life and property, with a view to achieving residents' satisfaction, at the same time to protect the lifespan of the buildings and other facilities, therein (Olatunbosun, 2018). With particular reference to the field of environmental science, maintenance is concerned with renovation, replacement of damage component parts of building, it is necessary for facilitating the provision of utilities and services. It also concerns with ensuring that open spaces are put into proper shape, and their usage are properly control and managed (Fagbohun, 2010). With rapid depreciation of public housing area, it is very imperative to investigate into the approach adopted in facilities management of the public housing estate in Lagos and identify the implications for sustainable housing development.

## LITERATURE REVIEW

Housing is defined as the total residential neighbourhood/environment or micro district including the physical structure, all necessary services, facilities and apparatus for the total health and social wellbeing of households and individual occupant (Olatunbosun, 2018). Housing means shelter; to others it means more as it serves as one of the best way to display standard of living of individual and society in general. Housing structures are enclosures in which people are housed for lodging, living accommodation, at the same time serves as workplace to some people. It is considered as one of the most basic of human needs. As a component of the environment, it has a reflective influence on the health, efficacy, social behaviour, satisfaction and general welfare of the community (Nubi, 2015). Thus, buildings within a residential area, according to Waziri

and Vaduhe (2013) are generally required to provide safe and conducive environment for the performance of various human activities.

A residential estate contains three major components, which include residential buildings, public facilities and the open spaces. A residential building made up of building structures and rooms, and facilities that make available basic services and utilities, needed for comfort of the building occupants. Public facilities and services are the provision made for the benefits of all occupants, such as water, electricity, solid waste management centre, fire service, school, security outfit, fence wall, road network and access and circulation. Others include shopping and market place, medical and religious centres (Fagbohun, 2005). However, public facilities within a residential estate may be provided by the government or the owner of the estate, and can be jointly provided, under the community development approach by the residents (Fauquier County, 2018). Ibem and Aduwo (2012) identified such efforts to include provision and management of a diverse range of social services, including healthcare, education, security and public safety from fire and disasters, welfare programmes for the aged and the handicapped, as a means to alleviate the suffering of the people. Open spaces for parking, sporting and recreational activities are component parts of a residential estate that required good maintenance, proper management and effective development control.

The level of management and maintenance of a housing area, including buildings and facilities has a significant impact on the quality of the living environment, residents' satisfaction, and the level of habitability. It plays an important role in determining the how soon a government could meet its target on housing provision. As noted by Olatunbosun (2018), housing habitability signifies the physical condition of dwellings (structurally, internally and externally); the existence of basic household facilities, such

as water, wastewater discharge, sewage disposal, electricity, as well as housing environmental condition. The structural condition of residential building has influence on socio-cultural behaviours and personal characteristics of the occupants (Nubi, 2015).

However, facilities management, according to the Mbamali (2005) is the management of buildings and their functioning. Hence, it is an umbrella term, under which a wide range of property and the user related functions may be brought together for the benefit of the affected organization and the occupants. It entails controlling and coordination of the use of building, replacement of damage materials, refurbishment and general maintenance. Housing maintenance on the other hand is the combination of all technical and associated actions intended to retain and sustain the condition of a housing area and the buildings contained therein; to restore a housing area or building to a state in which it can perform its required function. The essence of building maintenance is to preserve buildings in their initial functional, structural and aesthetic states, with a view to preserving property value. Waziri, and Vanduhe (2013) identified two main types of maintenance, which include preventive and corrective maintenance. A maintenance work carried out in anticipation of failure is referred to as preventive maintenance and those carried out for restoring after failure is referred to as corrective maintenance.

Poor maintenance and management of the existing housing stocks also contribute immensely to shortage of accommodation for different use. Because inadequate development control, as an element of housing facilities management may cause the use of substandard building materials and poor construction (Fagbohun, 2010). It was on this note that Adejimi (2005) attributed the array of abandoned and epileptically functioning facilities, particularly housing in Nigeria to poor or outright lack of maintenance. Similarly, the growing incidence of building collapse in Nigeria has

been attributed to poor construction, the use of substandard materials, and unethical adjustment to building structure, which could have been prevented, if there was effective management of housing area (Odediran, Opatunji and Eghnure, 2012).

Management and maintenance of a housing estate depends on the motive and intention of the owner. Four main types of approach have been conceptualised. These include community, corporate, institutional, and occupier approach. Community approach is a situation, whereby the owner and tenant come together to form a community development association for the purpose of provision, maintenance and management of community facilities. In the case of corporate approach, management and maintenance of the estate is contracted out to a corporate organisation, or an estate manager. When the owner of a housing estate, institutionalised the management of housing area, by establishing a unit or department for such a purpose is regarded as institutional approach. Management by occupier approach is a situation, where individual occupants are allowed to handle the maintenance and management of the building occupied. In this study situation, according to Nubi (2015), community development approach may be adopted as a complement for the community facilities provision.

Due to poor maintenance, housing facilities become inefficient in performing their expected functions. This has resulted in buildings decay, road surfaces break up, drainage channels become choked, and vehicles fail to run. As all-embracing element, management is not limited to urban environmental management, rather it sees city or urban area as a system activity and tries to find way on how the system can be coordinated and managed as a whole, in order to make it function effectively to cater for lives of the inhabitants and city sustainability.

## RESEARCH METHODOLOGY

Since the focus of this study is management of residential buildings in the public housing area, efforts were made to identify those estates built around the same period. The 8 identified one include Abesan, Amuwo-Odofin, Ijaiye, Ojokoro, Iponri, Isolo, Ipaja and Iba. Through the adoption of simple random sampling, Iba and Ojokoro Housing estates were sampled for this study. Iba Housing estate comprised 2, 388 housing units of 3-bedroom type (Adebayo and Iweka, 2013; Ajetomobi and Fagbohun, 2018), while that of Ojokoro comprised 534 (Mayaki, 2009). The 2 housing estates were built with the same architectural design, where each twin-block contained 3 floors of 4 flats each; with a total of 12 flats. Specifically, Iba estate contained 199 twin-blocks, while that of Ojokoro contained 45. For data collection, nothing less than 50% of the total number of twin-blocks was sampled from each estate, which accounted for 100 from Iba and 22 from Ojokoro. Questionnaire and inspection surveys were conducted simultaneously on each of these sampled building blocks and one resident per building through convenience sampling method. Questionnaire survey was adopted to enable the study determine the effectiveness of housing management approach adopted and solicit for residents' perception on the condition of the facilities. Inspection survey was adopted in order to enable the researcher to take note of the effects of the management system adopted on the housing area. A total of 122 twin-blocks of flats were successfully inspected, while 122 questionnaires were successfully administered. The data collected were analysed with the aid of descriptive statistics.

## THE STUDY AREA

Lagos State is located in the south-western Nigeria, along the West Coast of Africa and situated within latitudes  $6^{\circ}$  and  $7^{\circ}$  north of the equator, and longitude  $2^{\circ}$  and  $5^{\circ}$  east of the Greenwich Meridian. The state is bounded in the north and east by Ogun State, in the west by the Republic of Benin and the south by the Atlantic Ocean, located about

800km from Abuja, the Federal Capital Territory (Fagbohun, 2017). Geographically, the state is the smallest among the 36 states, with an area of about  $3,577\text{km}^2$ . About 22%, which accounted for  $787\text{km}^2$  is occupied by water, such as lagoons and creeks. Lagos was initially the Federal Capital, before the seat of government was moved to Abuja in 1991. With a population of 9,013,534, Lagos State is the second largest, after Kano State (Fagbohun, 2021). The state has the highest population concentration in Nigeria, with a population density of 7,938 persons per  $\text{Km}^2$  (Ajetomobi and Fagbohun, 2018).

Due to its status, Lagos State has been facing the challenge of housing shortage, as far back as 1920s (Enisan and Ogundiran, 2013). The first attempt to address housing challenge led to the establishment of Lagos Executive Development Board. The Board started responding fully to housing provision in 1951, towards preparation for independent. Housing estates were built in such places like Yaba, Surulere, Apapa and Ikoyi in 1955, which accounted for 4,500 housing units.

Between 1972 and 1975, Surulere and Ogba housing estates were completed. There was more attention on low-income housing provision, in such places like Amuwo-Odofin, Ipaja during the second republic (1979-1983). During this period, the Lagos State Development and Property Corporation (LSDPC) that was created in 1972 built more than 10,000 low-income housing units. By the 1992, about 17,000 units were built across the state, which include Abesan (4,272 units), Amuwo-Odofin (2,068), Iba (1,560), Ijaiye (812), Isolo (3,632), Ojokoro (534) (Mayaki, 2009; Enisan and Ogundiran, 2013; Babalola, 2016). However, 17,000 housing units were also built at different location in the state. During the 1999 democratic dispensation, new approach was taken with the development of housing, tagged Millennium Housing Scheme (Ajetomobi and Fagbohun, 2018).

Iba and Ojokoro Housing Estates, which were among the housing estates completed in

1992, were specifically built for the low-income. Iba Housing Estate is located in Ojo Local Government Area, accessible through LASU-Idimu Road, via Lagos-Badagry Expressway to the south of the state linking Abeokuta-Lagos expressway at Iyanalapa in Agege Local Government Area. Iba Housing Estate shared boundary with Iba community in the north and west, while in the south and east, it shared boundary with Igbo Elerin and LASU-Idimu/Iyana-Ipaja Road. Ojokoro Housing Estate on the other hand is located within Ojokoro community in Agbado-Ijaiye Local Government Area. It shared boundary with Lagos-Abeokuta Expressway in the southwest. Iba Housing Estate is larger than

Ojokoro Housing Estate. The former has an estimated population of about 10,920. This could be attributed to its size and the incidence of change of use. Ojokoro on the other hand is not as populated as Iba Housing Estate. Its population is estimated at 3,204. Both Iba and Ojokoro housing estates, investigated by this study are located towards the edge of Lagos Metropolis in the northwest and northeast respectively. Fig 1 is a map of Lagos Metropolis showing Ojo and Ifako-Ijaiye local governments, where Iba and Ojokoro housing estate is located respectively. Figure 2 is a layout plan of Iba Housing Estate



Figure 1: Map of Lagos Metropolis Showing the Location of Ojo and Ifako - Ijaiye LGA

Source: Fagbohun (2018)

## DATA ANALYSIS AND DISCUSSION

### AGE OF RESPONDENTS AND THE LENGTH OF STAYING IN THE STUDY AREA

The study found that 24.60% of the respondents for this study were in the age bracket 20-29, 25.42% and 23.77% were in the age bracket 30-39 and 40-49

respectively, while 21.32 were in the age group 50-59. Those who were in age groups 60 and above were 4.92%. These age structures may not represent age distribution of the residents of the study area, since all the residents were not at home during the study. The study found further that 6.56% of the respondents have spent more (1-10) years in the study area, 34.32% have spent (11-20) years, while 45.09% have spent (21-30) years. It was discovered further that those who have spent 31 years and above were 13.94%.

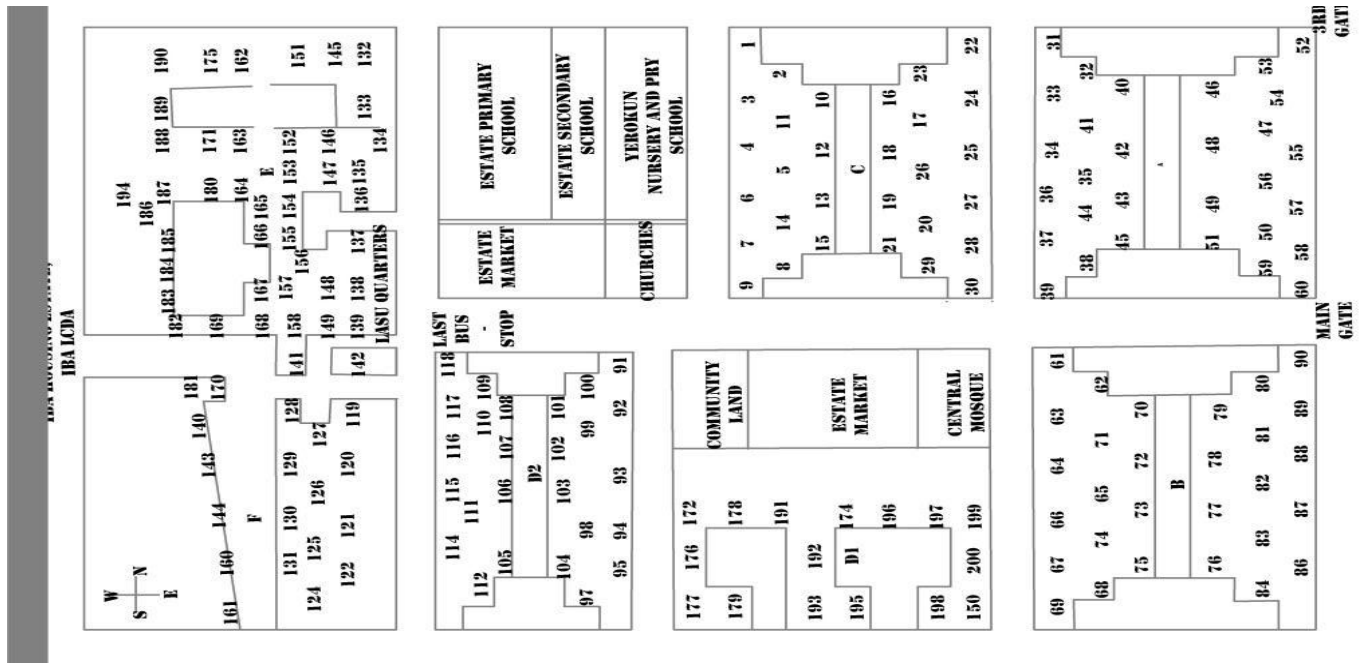


Figure 2: Land Use Plan of Iba Low -Income LSDPC Housing Estate  
Source: Babalola (2016), Ajetomobi and Fagbohun (2018)

### CONDITION OF BUILDINGS AND THE SURROUNDINGS

The study investigated into the condition of buildings occupied by the respondents and facilities in the surrounding environment, which include drainage, open space and the estate general aesthetic. As indicated in Table 1, the study discovered that that higher proportion, 48.36% of the respondents that the condition of the roof of the apartment they occupied was bad, 41.80% responded that the roof condition was fair. It was just only 9.84% of the respondents that have the view that the roof condition of their apartment was good. When the view of the respondents were sought for on the wall condition, 50.82% have the view the walls of their building was in bad condition, while 40.16% have the view that their wall condition was fair. It was only 9.02% of the respondents that observed that the walls condition of their apartment were good. For the painting condition of the apartment occupied by the respondents, 55.74% of them observed that the condition was bad, 36.07% have the view that the condition was fair, while 19.68% of the respondents have

the belief that the painting condition of the apartment was good.

When the views of the respondents were sought for on the general condition of their living environment, it was discovered that 56.56% of the respondents have the view that the condition of the drainage facility of their area was bad, 33.66% have the view that the drainage facility was in fair condition, while it was only 10.66% of them observed that the condition was good. When the perception of the respondents were sought for on the condition of open space, in the area of beautification maintenance and conversion to other use, 63.12% observed that the condition of the open space was bad, 31.97% believed that the condition was fair, while 4.92% have the view that the condition of open space in their area was good. On the general aesthetic condition of their living environment, 40.98% of the respondents believed that it was in bad condition, while 39.34% of them have the view that the aesthetic condition of their environment was fair. It was only 19.68% of the respondents for this study that have the belief that the overall aesthetic condition of their living

environment was good. Plate 1 is a picture of some buildings investigated, which describes the use of open space and general aesthetic condition of the study area.

**Table 1: Condition of Buildings' Components and the General Environment**

Condition	Roof		Wall		Painting	
	Freq.	%	Freq.	%	Freq.	%
Good	12	9.84	11	9.02	13	10.66
Fair	51	41.80	49	40.16	41	36.07
Bad	59	48.36	62	50.82	68	55.74
Total	122	100.00	122	100.00	122	100.00
Condition	Drainage		Open Space		General Aesthetic	
	Freq.	%	Freq.	%	Freq.	%
Good	9	7.38	6	4.92	24	19.68
Fair	44	33.66	39	31.97	48	39.34
Bad	69	56.56	77	63.12	50	40.98
Total	122	100.00	122	100.00	122	100.00

Source: Field Survey (2021)

#### MAINTENANCE CONDITION OF RESIDENTIAL BUILDINGS AND FACILITIES

The study discovered two types of maintenance often carried by the occupants of the estates investigated for this study. The study found that it was only 9.02% of the respondents that carried out a preventive maintenance on the building components and the attached utilities and facilities, such water and wastewater pipes and electricity facilities. However, majority, 78.678% of the respondents revealed that they normally

carried out a corrective maintenance. It was only 12.30% of them that carried out both preventive and corrective maintenance on their buildings and the attached utilities and facilities. Due to the low level of preventive maintenance approach, some of the building failures were allowed to rundown completely before the corrective maintenance was applied. This approach of corrective maintenance was observed to be so costly and ineffective. This is because condition of deterioration of the affected repair work would have gone beyond quick remedy before the corrective maintenance could be applied.



Plate 1: Abuse Use of Open Space and Poor Physical Condition in the Study Area  
Source: Field Survey (2021)

#### THE QUALITY OF INSTALLATION AND MAINTENANCE WORK CARRIED OUT

The way the building components and the attached facilities were installed has a significant impact on their durability, i.e. the life span of any component parts and housing facilities depends on the quality of installation. The study investigated into the quality of building and facilities installation, so also was the quality of maintenance work carried out. The facilities and component parts of the residential buildings that were investigated include water pipe, liquid waste pipe, electricity and roof. As shown in Table 4, the study found that 61.64% and 54.10%

of the respondents have the view that water pipe and liquid waste pipe were properly installed when the buildings were originally installed, while 63.12% and 67.21% observed that electricity facilities and roof were properly installed. On the other hand, 18.85% and 26.23% of the respondents have the opinion that water pipe and liquid waste pipe fairly installed respectively, while 34.43% and 31.15% of the respondents believed that electricity and roof were fairly installed. It was only 18.85% and 19.67% of the respondents that believed that water pipe and liquid waste pipe were not properly installed, while 2.46% and 1.64% believed that electricity and roof were not properly installed. In average, it was 61.52% of the respondents that have the belief that the four facilities as highlighted in Table 2 were properly installed.

Table 2: Quality of Installation and Maintenance of the Residential Building

Type of Facility	Properly Installed		Fairly Installed		Not Properly Installed	
	Freq.	%	Freq.	%	Freq.	%
Piped Water	63	61.64	23	18.85	23	18.85
Liquid Waste	66	54.10	32	26.23	24	19.67
Electricity	77	63.12	42	34.43	03	2.46

Roof	82	67.21	38	31.15	02	1.64
Type of Facility	Properly Maintained		Fairly Maintained		Not Properly Maintained	
	Freq.	%	Freq.	%	Freq.	%
Piped Water	39	31.97	28	22.95	65	53.28
Liquid Waste	31	25.41	13	10.66	78	63.93
Electricity	38	31.15	36	29.51	48	39.34
Roof	33	27.05	45	36.89	44	36.07

Source: Field Survey (2021)

The study investigated into the maintenance of the identified facilities and roof of the building inspected and discovered that 31.97% and 25.41% of the respondents observed that water pipe and liquid waste pipe were properly maintained respectively, while 31.15% and 27.05 observed that electricity and roof were properly maintained. However, 22.95% and 10.66% have the belief that piped water and liquid waste facilities were fairly maintained respectively, while 29.51% and 36.89% of the respondents believed that electricity facility and roof of the sampled houses were fairly maintained respectively. The study discovered further that 53.28% and 63.93% of the respondents for the study have the view that piped water and liquid waste disposal facilities were not properly maintained, while 39.34% and 36.07% believed that electricity facility and roof of the houses in the study area were not properly maintained respectively. In average, it was only 28.90% of the respondents that have the belief that the buildings and housing facilities were properly maintained, despite the fact that 61.52% of them have the notion that their buildings and their facilities were properly installed.

#### THE USE OF QUALIFIED PERSONNEL FOR INSTALLATION AND MAINTENANCE WORK

The high number of cases of poor installation and the maintenance of damaged facilities could be attributed to the type of personnel

and technical workers involved. The study found that it was only 11.48% of the sampled households that contacted qualified professional, when there was need to carry out repair and maintenance works. The study discovered further that 18.03% of respondents hired the service of technologist, while 70.49% hired the service of unqualified and quack workers. Considering the high level of poor maintenance works carried out on the residential buildings of the study area, it can be concluded that there is relationship between the level of qualified professional involvement in the maintenance works carried and the quality of maintenances work carried out. It is also reflected in the perception of the of the respondents on the quality of installation and maintenance works carried out by the personnel hired to work for them, as indicated in Table 2.

#### CONSEQUENCES OF THE QUALITY OF MAINTENANCE AND INSTALLATION WORKS CARRIED OUT

The study identified six main consequences of poor maintenance works being carried out on the buildings and housing facilities of the study area. Such consequences are as highlighted in Table 3. The study was able to establish that 70.49% of the respondents for the study observed that the poor maintenance culture could weaken the structure and foundation of the buildings of the study area, while 73.31% observed that the situation has could lead to high cost of

building maintenance for them. Similarly, the study found that 73.31% affirmed that poor maintenance level could shorten the lifespan of the buildings of the study area, while 74.59% believed that poor level of maintenance could lowering the building aesthetical value of the study area. Other effects of poor maintenance include damaging of drainage system and destruction of the estate landscape.

Table 3: Consequences of Poor Maintenance and Repair of Buildings and Facilities

Effects	Frequency	Percentage
Weakening the Building Structure and Foundation	86	70.49
Leading to High Cost of Building Maintenance	87	73.31
Shortening the Lifespan of Building	88	72.13
Lowering the Building aesthetical Value	91	74.59
Damaging Drainage System	81	66.39
Destruction of the Estate Landscape	66	54.10

Source: Field Survey (2021)

#### **RESIDENTS' SATISFACTION ON THE RESIDENT ENVIRONMENTAL QUALITY**

Due to the environmental quality of the study area, the study investigated to determine the residents' satisfaction from living in the study area. As indicated in Table 4, it was discovered that 10.66% of the respondents

were extremely satisfied with living in the study area, 14.75% were satisfied, while 30.33% were fairly satisfied with the condition of living of the residential area. The study found further that 44.26% of the respondents were not satisfied with living in the study area.

Table4: Residents' Satisfaction with the Condition of Housing

Facilities

Level of Satisfaction	Frequency	Percentage
Extremely satisfied	13	10.66
Satisfied	18	14.75
Fairly satisfied	37	30.33
Not satisfied	54	44.26
Total	122	100.00

Source: Field Survey (2021)

## SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

Findings from the study can be summarised as follows.

- All the sampled residents were adult, who could provide good response to questions in the questionnaire. Higher proportion of the respondents fell in the age brackets 20-44, which accounted for 63% of the total respondents. Similarly, majority of the sampled respondents have stayed in the study area for more than 10 years. This number accounted for 96.04% of the total number of respondents for this study. This status enabled them to provide genuine information on the questions asked from them.
- The condition of buildings inspected was not in conformity with good housing quality, in such areas as roof, wall, painting, drainage and open space. Hence plate 1, depicts the overall physical outlook of the residential buildings in the study area. The study found that there was high incident of hiring unqualified personnel, which was 71.29% of those who handled repairs and maintenance works on the sampled buildings. Hence management of the housing area was in the hand of individual flat occupants. In view of this, repair and maintenance were not properly handled.
- The study found that the management system and maintenance approach adopted for the study area have a number of effects on the sampled buildings and the overall housing area. These include weakening the building structure and foundation, causing crack of walls, high cost of building maintenance. The situation could also shorten the lifespan of buildings, lowering the building aesthetical value, damage drainage

system and destroy estate landscape. Hence, higher proportion (44.56%) of residents was not satisfied with the living condition of the study area, 30.69% of those who were satisfied were only fairly satisfied.

- However, six major contributing factors were identified causing poor condition of buildings and the housing area of the study area. These include unethical adjustment into buildings by employing the service of the quacks, poor housing management system, poor maintenance and the use of unqualified personnel. Others include inadequate use of water and age of buildings.

It can be concluded that building maintenance system and management approach adopted for the study area have not yielded good result of ensuring sustainable housing management in the study area. Hence, the study suggests a central coordinated management approach to ensuring standard. This approach will prevent the use of unqualified personnel; promote the use of good quality materials and regular maintenance of the buildings components, as demanded. The adoption of central coordinated approach is not meant to discourage private sector participation in housing maintenance; it is to ensure competency.

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