

AN ASSESSMENT OF HOUSING MAINTENANCE AND MANAGEMENT IN FEDERAL HOUSING ESTATES IN ABUJA, NIGERIA.

By

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ABSTRACT

This research examined the management and maintenance of Federal Housing Estates in Abuja with a view to establishing the extent of housing management in ensuring sustainable housing. It focused on selected Federal Housing Estates to assess how well the existing housing stock were managed. A sample size of 400 housing units was adopted in each of the sampled estates from a total population of 3,415 and 3,494 using stratified random sampling technique. Questionnaire were administered on households that fell within the sample group, which centered on the condition of buildings, management responsibility, frequency of maintenance, availability and access to neighborhood facilities and services and general management approach amongst others. A response rate of 92.75% and 91% was recorded in both estates. Surveys were also carried out to assess the conditions of access roads, drainages, street lights, and other neighborhood facilities. Collected data were analyzed using frequency distribution and percentages. The study revealed that, housing units and infrastructure presents varying conditions ranging from very good, good, fair, bad, and very bad. It also revealed the extent of housing management and maintenance which is responsible for the present outlook of the estates. The study recommended that minimum maintenance standards be set for residents to ensure that houses are maintained in good and decorative states of repair, while also emphasizing the need for residents to adopt good maintenance culture.

Key words: Maintenance, Management, Federal Housing Estates.

1.0 INTRODUCTION

It is agreed that housing touches each and every individual in a very intimate way. It goes beyond shelter to embrace all the social services and utilities that go to make a neighborhood or community a liveable environment (National Housing Policy, 2006). Housing plays an important role in the life of man as it provides the basis for socio-cultural and economic development. The provision of housing in Nigeria has over the years been viewed largely as government concern and the federal government has made concerted efforts toward tackling the nation's housing problems. According to Olayiwola, *et al*, (2005), the synthesis of government activities have shown that during the past few years, a number of constructive programmes and far reaching actions have been taken by the government to address the increasing housing needs of the people. The Federal Housing Authority have intensified efforts towards providing housing in Abuja, though the housing supply is still yet to meet the housing demand of the people, a significant impact is noticeable.

Lawal (2002), however argued that appropriate management principles and maintenance techniques are necessary to make these housing estates worthwhile living human environments, as the Federal Housing Authority have concentrated their energies mainly on the provision of large number of housing units without giving adequate attention to their management implications. This is evidenced by the poor physical outlook of Federal Housing Estates across the country. These houses are in most cases characterized by declining housing and infrastructural qualities thereby threatening human health and safety while also hampering the functionality of housing units. With the extensive damage this attitude has done to these estates, a shift and a reorientation of policy emphasis are very necessary. This research among other things attempts to provide a policy framework geared at improving management and maintenance in federal housing estates, thereby ensuring sustainable housing.

2.0 Statement of the problem

Government in Nigeria has accepted housing as a social good with its associated services and as an

item in its portfolio, thus the involvement of government in the provision of housing estates across the country. Though, Onibokun (1990), Lawal (2002), Olayiwola *et al* (2005), and Jinadu (2007), view housing problems from quantitative and qualitative view points; In considering sustainable housing, it is the opinion of the author that aside quantitative and qualitative shortfalls, the proper management and maintenance of the available stock is important. While previous researches have mostly centered on the assessment of housing conditions (Ajala, 2002; Ojetunde and Morenikeji, 2006; and Sule, 2009) without substantial discuss on management strategies, it is essential that housing management and maintenance be thoroughly examined, as the various housing conditions is merely a reflection of how well these houses are managed and maintained.

3.0 Aim and objectives

The aim of this research is to assess the maintenance and management of federal housing estates in Abuja, Nigeria.

The objectives are:

- i. To examine the present housing conditions in selected Federal Housing Estates in Abuja.
- ii. To examine the condition of neighborhood facilities and service in these estates.
- iii. To examine the extent of housing maintenance and management in these estates.

4.0 The study area

The largest federal housing estates in Abuja were sampled in this study. These are:

i. Gwarimpa II Estate:

Gwarimpa II estate is a high and medium income residential neighborhood. It is located in the federal capital city and is bounded by Galadima, Jahi, Kado estate, and Lifecamp. It covers a land area of about 1090 hectares. Accessibility into the estate is through a number of gates all of which fronts the Kubwa express road. Major developments within the area are schools, corner shops, religious properties, hotels, recreational centers, and residential properties. The estate is inhabited by people of diverse cultural and religious groups, majority of whom are hausas, yorubas, igbiras and igbos. A larger proportion of the residents are civil servants working with federal government parastatals.

The estate has about 3,965 housing units(Federal Housing Authority, 2011) comprising three bed room bungalows, blocks of flats (two and three bedroom), semi-detached and detached duplexes (four and five

bedroom), five bedroom luxury duplexes and mansions.

ii. Lugbe Federal Housing Estate

Lugbe federal housing estate is occupied by people of the low and middle income class. The estate is located on the outskirts of Abuja along the Abuja airport road. It covers a land area of about 551hectares. Major developments within the area are schools, corner shops, markets, religious properties, and residential properties. The estate is inhabited by people of diverse cultural and religious groups, majority of whom are civil servants and others privately employed. The estate has about 3,690 housing units(Federal Housing Authority, 2011) comprising one, two and three bed room flats.

5.0 LITERATURE REVIEW

5.1 Concept of Housing

Housing is generally referred to as shelter for human habitation. Essentially, housing serves as a place where man seeks shelter, comfort, security and dignity among other things. It is a structure designed as an abode for one or more persons (Encyclopedia Americana, 1981). The World Health Organization as quoted in Onibokun (1990) defined housing as residential environment which includes, in addition to the physical structure that man uses for shelter, all necessary services, facilities, equipment and devices needed or desired for the physical and mental health and social wellbeing of the family and individual. In addition to the primary function of providing shelter or lodging for human habitation, housing also encompasses the immediate environment, sanitation, drainage, recreational facilities and all other economic and social activities that make life worthwhile (Otegbulu, 1996).

As observed by the UNCHS (1996), a considerable proportion of the world's population see their house as their most valuable asset, and for many, it is also their most significant item of expenditure. Similarly, Aluko (2004) explained that housing reflects the cultural attributes of any given society and is always being used as one of the best indicators of a person's standard of living and his level of placement in the society. According to Jinadu (2007), housing is a bundle of services or a basket of goods which includes the physical structure itself, the ancillary facilities and services within and around it as well as the general environmental qualities and amenities that surround the building. These varied definitions and conceptions given to housing portray it as an important and indispensable element of human settlement.

5.1.1 Housing management

Simply put, housing management refers to the supervision, control and maintenance of the present and potential housing resources of an estate so as to eliminate housing problems, and ensure optimal utilization for both the landlord and the tenants. According to Macey and Baker (1965), housing management is the application of skill in caring for a property, its surroundings, and amenities and in developing a sound relationship between landlord and tenants and between tenants themselves in order that the estate as well as individual houses may give the fullest satisfaction to both the landlord and the tenants. Housing Management entails the provision and control of a residential property with its related community facilities to ensure its proper care, its maximum use and enjoyment, its optimum benefit to the landlord, tenant and other residents in the neighborhood. (Lawal, 2002). Its major objective is to secure maximum economic returns from available resources having regard to the present and future social exigencies (Emoh, 2004).

According to Agunbiade (2007), the business of housing management consist of day-to-day decisions towards making the housing investment profitable and satisfying to the housing consumer. It is a specialized function undertaken by professional estate surveyors and valuers. At the macro level, housing management involves all policy decisions and actions instituted to run the housing sector and to meet the accomodation requirements of the people; while at the micro level, it involves all activities and efforts instituted to maintain the existing housing stock (Jinadu, 2007).

5.1.2 Housing maintenance

Maintenance is the entire endeavor to keep physical facilities, structures, equipment, machinery and services at a satisfactory level of technical performance and quality at the lowest total cost (Bello 1999). According to Aluko (2004), building maintenance is simply the act of preserving buildings in conditions close to their original states. Olatubara and Adegoke (2007) referred to maintenance as all works relating to repairs, replacements and /or redecoration performed on any building with the aim of increasing the useful economic life, enhance its value as well as promotes its beauty, functionality and preventing damage and injury. According to Olatubara and Adegoke (2007), housing maintenance transcends the focus of the building alone, to include the maintenance of all other auxiliary facilities, utilities and services, both internal and external to the building to cover its immediate neighborhood. This in essence, covers the building structure, the internal facilities and equipment like plumbing

systems, electrical fittings and sewers, the external facilities such as sewage systems, drainage system, access roads, street lighting, and refuse and waste management, among others. The focus of housing maintenance is on keeping, restoring and / or upgrading all the component parts of housing to the original functional efficiency and currently acceptable standard. This implies the preservation of housing infrastructure to prevent obsolescence through the carrying out of routine repairs on both the physical structure and the supporting services. Observations have shown that quite a number of houses may be in good state of repairs, but are affected by the general neighborhood deterioration as a result of deteriorating neighborhood facilities, utilities and services. The proper maintenance or otherwise of these neighborhood facilities, utilities and services may hinder the performance of housing.

5.2 Housing Maintenance and Management in public estates

Generally, a maintenance culture depends on the technical and economic norms of the society. A look at properties within many public estates in Nigeria reveals varying levels of maintenance. While some are well maintained and attractive, others are the direct opposite. In assessing the state of housing maintenance in Nigeria, Wahab *et al*, (1990) maintained that 62.4% of the national housing stock needed minor and major repairs, with 2.7% completely dilapidated. It is almost unfortunate that many housing estates present a very drab and unattractive outward appearance, which Lawal (2002) attributed to poor design or layout, lack of development control and general neglect and failure to look after private gardens and public open spaces. It is common to observe gradual accumulation of waste which end up blocking major drains, dirty and filthy environments, dilapidated structures, buildings with major structural defects such as wall and floor cracks still not attended to and worn out electrical and plumbing facilities in public estates. In many public estates in Nigeria there is the co-existence of buildings that show serious maintenance commitment on one hand with those in disrepair that show nonchalance to maintenance on the other hand. Davis and Winsto (1961) as quoted in Jinadu (2007) argued that most buildings could be maintained in good state of repairs provided that their owners are willing to undertake the maintenance expenditure required. This implies that the economic aspect which has to do with the funding of maintenance schemes is very important.

A study of tenants participation in the management of urban housing infrastructure carried out by

Jinadu (2001) revealed that tenants in most developing countries (including Nigeria) live in poorly maintained accommodation. Olatubara and Adegoke (2007) observed that the major dilemma of housing maintenance is that the larger percentage of what to maintain is usually outside the control of individual residential dwelling owners/occupiers. The only part of maintenance on which individual residential dwelling owners have control is their own dwelling, i.e. each owner/occupier is responsible for the maintenance of the dwelling he/she occupies. "Neighbourhood facilities" comprising assess roads, drainages, and recreational facilities among others, are common properties which ideally should be collectively maintained either through service charges or taxes. Unfortunately, these service charges or taxes often suffer from poor collection machinery, poor administration and public corruption. The resultant effect of this is neglect of maintenance and subsequently, deteriorating state of facilities and services.

Olatubara and Adegoke (2007) while emphasizing strict regulatory framework to ensure that individual owners conform to certain maintenance standards, maintained that the management of common property be given to private organizations who should have responsibility for the collection and administration of service charges as well as the repair and maintenance of neighborhood externalities that bears great influence on housing maintenance.

5.3 Review of empirical studies on housing estates in Nigeria

Until recently, housing issues and problems have mostly been looked at from quantitative and qualitative view points, with little or no emphasis on the management and maintenance of the existing housing stock. Ajala (2002) appraised the housing conditions and infrastructural facilities in Maikunkele Housing Estate, Minna. Housing and Environmental surveys were carried out and data analyzed with the use of chi square. Results from the study showed that facilities provided in the estate are inadequate and poorly managed. It further revealed a statistically significant relationship between occupancy ratio and housing conditions. It however failed to take note of how houses in the sampled estate were managed, and factors responsible for its poor management.

Ojetunde and Morenikeji (2006) measured residential quality as well as residents' perception of quality in Minna. Fifteen neighborhoods were sampled and data on housing conditions, housing infrastructure, the adequacy of the houses, and the provision of physical infrastructure (such as roads,

water, electricity supply and sanitation) were retrieved. Each of these variables were ranked good, moderate, bad, very bad and worst and scored 5 points, 4 points, 3 points, 2 points, and 1 point respectively. The consensus opinion of residents of the sampled neighborhoods indicated that the quality of their residential neighborhoods was bad. The study further regressed the mean sum of residential quality against the respective mean rental values of each neighborhood and revealed a strong correlation between mean rental value and residential property scores. This research however lacks adequate data on the management approach adopted in these neighborhoods.

Musa, Garba and Kehinde (2007) carried out a research to find out the suitability of the shared maintenance concept as an alternative approach to maintenance of public buildings in Nigeria. Oral interviews were conducted and questionnaires administered on occupants of selected public housing estates in Bauchi State. The extent of the deteriorations of the various elements of housing units of the selected estates was grouped into 3 classes, viz: the extreme, moderate and low. A high percentage of housing units with extreme conditions of dilapidation of building elements with percentages that range from 33%-87% were recognized. About 10% - 57% of the elements examined had moderate condition of dilapidations, while only 2% - 6% had low condition of dilapidation. A total of 102 respondents out of 147 which represents a response of 69.4% indicated their willingness to share maintenance cost with the Authorities of the housing estates, while 43 respondents, representing 29.2% indicated their unwillingness and only 2, representing 1.4% were undecided. The study suggested shared maintenance approach as an alternative maintenance programme for public buildings.

An evaluation of housing quality in Abaji city, FCT carried out by Sule (2009) aimed at assessing the housing quality in relation to environmental quality in Abaji city. Data were collected with the use of questionnaires, interviews and observations. Housing quality was measured using data on houses structural characteristics, in house and environmental facilities. The mean housing quality of the sampled houses were arrived at after scoring all variables. Results from analyzed data showed that Abaji city generally lacks good quality houses. It further revealed a positive relationship between the type of buildings and rental values; and between road accessibility and rental values. Nothing was said about the management and maintenance of the sampled houses.

6.0 METHODOLOGY

The target population for this study comprised housing units in Gwarimpa II and Lugbe Federal Housing Estates that have been completed and occupied. The choice of these two estates was considered because they presently constitute the largest Federal Housing Estates in the Federal Capital Territory. In order to ensure a fair selection of the sample from the population, the stratified random sampling technique was used, and this entailed the division of the population into a number of strata based on residential property types within the study areas, after which samples were randomly selected from each stratum. For the purpose of this study, a sample size of 400 housing units was adopted in each estate. Questionnaires were designed and administered on households that fall within the sample group, and these questionnaires centered on the type of house, condition of buildings, management responsibility, frequency of maintenance, availability and access to neighborhood facilities and services, service charge administration and management, and general management approach amongst others. In order to improve on the short comings of the questionnaires, personal interviews were

conducted with some residents of the estates and top executives of the Federal Housing Authority, which essentially centered on general management and maintenance issues. In order to have a clear picture of the entire housing conditions, both estates were visited and inspections conducted round the whole area. Observations were made and first hand information was gathered. An analytical frame work was adopted which employed descriptive statistics to analyze the stated objectives. Frequency counters converted to percentages by computation was used to analyze the stated objectives which are expressed and shown in form of tables.

7.0 RESULTS

7.1 Housing conditions in selected Federal Housing Estates

Generally, the physical conditions of housing units reflects the level and extent of management and maintenance. Housing units in the sampled estates presents varying physical conditions as shown below.

Table 7.1 Condition of Doors and Windows.

Building Part	Condition	Gwarimpa II		Lugbe	
		Frequency	Percentage	Frequency	Percentage
Door	Very good	201	54%	78	21%
	Good	89	24%	34	9%
	Fair	78	21%	165	45%
	Bad	3	1%	82	23%
	Very bad	0	0%	5	1%
	Total	371	100%	364	100%
Windows	Very good	197	53%	61	17%
	Good	100	27%	57	16%
	Fair	68	18%	206	56%
	Bad	6	2%	28	8%
	Very bad	0	0%	12	3%
	Total	371	100%	364	100%

Source: Author's field survey, 2011.

Table 7.1 shows households' assessment of door and window conditions in their housing units. From the table, 54% and 21% of households in Gwarimpa II and Lugbe Federal Housing Estates respectively described their doors as very good, 34% and 9% in both estates described their doors as good, while 21% and 45% respectively affirmed to having fair doors. 1% and 23% respectively responded that doors in their housing units were bad, while 1% of households in Lugbe Federal Housing Estate described theirs as very bad.

Similarly, 53% and 17% of households in Gwarimpa

II and Lugbe Federal Housing Estates respectively described windows in their housing units as very good, 27% and 16% in both estates respectively described windows in their housing units as good while 18% and 56% of households in Gwarimpa II and Lugbe respectively, affirmed to having fair windows. 2% and 8% of households in both estate respectively responded that windows in the housing units were bad, while 3% of households in Lugbe Federal Housing Estate described theirs as very bad.

Doors and windows in Gwarimpa II estate were

generally observed to be in better conditions compared to Lugbe Federal housing Estate where a larger number of doors and windows were either fair or bad. This was attributed to high replacement

costs which were unaffordable by majority of the residents, and also, neglect on the part of managing agents where houses were let.

Table 7.2 Condition of Ceilings and Roofs

Building Part	Condition	Gwarimpa II		Lugbe	
		Frequency	Percentage	Frequency	Percentage
Ceiling	Good	320	86%	122	33%
	Leaking	29	8%	112	31%
	Sagging	8	2%	36	10%
	Part missing	14	4%	94	26%
	Total	371	100%	364	100%
Roof	Good	327	88%	107	29%
	Rusty	11	3%	87	24%
	Leaking	29	8%	153	42%
	Part blown off	4	1%	17	5%
	Total	371	100%	364	100%

Source: Author's field survey, 2011.

Table 7.2 shows that as much as 86% of households in Gwarimpa II estate affirmed to having good ceilings compared to Lugbe where only 33% of households described ceilings in their housing units as good. Similarly, only 8% of households in Gwarimpa II estates complained of leaking ceilings compared to 31% of households in Lugbe Federal Housing Estate. Also, 2% and 10% of households in Gwarimpa II and Lugbe Federal Housing Estates respectively described ceilings in their housing units as sagging, while 4% and 26% of households respectively reported that parts of ceilings in their housing units were missing. In the same vein, 88% of households in Gwarimpa II estate affirmed that roofs in their housing units were intact and in good condition compared to 29% in Lugbe Federal Housing Estate. While 3% of housing units in

Gwarimpa II estate had rusty roofs, 24% of housing units in Lugbe Federal Housing Estate had rusty roofs. Similarly, 8% and 42% of households in Gwarimpa II and Lugbe Estates respectively complained of leaking roofs, while 1% and 5% of households in both estates respectively affirmed that parts of their roofs had blown off.

Observations further revealed that at the time of carrying out this survey, roofs blown off in Gwarimpa II Estate were being fixed. The varied ceiling and roof conditions in both estates were however attributed to the ability of residents in Gwarimpa II estate to adequately carry out maintenance and repair works as a result of their high income level as against Lugbe were a larger proportion of resident were low and medium income earners.

Table 7.3 Condition of Walls and floors

Building Part	Condition	Gwarimpa II		Lugbe	
		Frequency	Percentage	Frequency	Percentage
Walls	Good	256	69%	79	22%
	Damp	55	15%	25	7%
	Painting defects	31	8%	176	48%
	Cracking	29	8%	84	23%
	Total	371	100%	364	100%
Floors	Good	366	99%	313	86%
	Moist	5	1%	12	3%
	Cracking	0	0%	39	11%
	Total	371	100%	364	100%

Source: Author's field survey, 2011.

Table 7.3 shows that 69% and 22% of households in Gwarimpa II and Lugbe Federal Housing Estates respectively described internal and/or external walls in their housing units as good, while 15% and 7% in both estates respectively described walls in their housing units as damp. The table further shows households responses indicating that internal and/or external walls in 48% of housing units in Lugbe Federal Housing Estate had varying degrees of painting defects as opposed to 8% of housing units in Gwarimpa II Estate. Households in 8% and 23% of housing units in Gwarimpa II and Lugbe Federal Housing estates respectively affirmed that walls in their various housing units showed signs of cracking. Similarly, responses from residents showed that 99% and 86% of houses in

Gwarimpa II and Lugbe Federal Housing Estates respectively had absolutely good floors, while 1% and 3% in both estates respectively were moist. There were no cracked floors in all houses sampled in Gwarimpa II estate, and only 11% of houses in Lugbe Federal Housing Estate had cracked floors.

Observations further revealed that though majority of houses in both estates had good floors, a larger majority of houses in Gwarimpa II estate had good walls as opposed to Lugbe Federal Housing Estate where wall cracks and painting defects characterized a large proportion of housing units. This was attributed to high maintenance cost, and in some cases, neglect on the part of occupiers or their managing agents.

Table 7.4 Condition of Building Services

Building Part	Condition	Gwarimpa II		Lugbe	
		Frequency	Percentage	Frequency	Percentage
Toilet	Very good	115	31%	81	22%
	Good	193	52%	56	15%
	Fair	62	17%	148	41%
	Bad	1	0%	77	21%
	Very bad	0	0%	2	1%
	Total		371	100%	364
Bathroom	Very good	115	31%	81	22%
	Good	193	52%	56	15%
	Fair	62	17%	210	58%
	Bad	1	0%	16	4%
	Very bad	0	0%	1	0%
	Total		371	100%	364
Kitchen	Very good	117	32%	44	13%
	Good	123	33%	114	31%
	Fair	131	35%	202	55%
	Bad	0	0%	4	1%
	Very bad	0	0%	0	0%
	Total		371	100%	364

Source: Author's field survey, 2011.

Table 7.4 shows households' assessment of the condition of toilets, bathrooms and kitchens in their respective housing units. Based on data retrieved from completed questionnaire, 31% and 22% of housing units in Gwarimpa II and Lugbe Federal Housing Estates respectively had very good toilets and bathrooms, 52% and 15% of housing units in both estates respectively had good toilets and bathrooms, while 17% of housing units in Gwarimpa II had fair toilets and bathrooms. 41% of toilets and 58% of bathrooms in Lugbe Federal housing estate were in fair conditions, while 21% and 1% of housing units had bad and very bad toilets respectively.

In the same vein, 32% and 13% of housing units in Gwarimpa II and Lugbe Federal Housing Estates respectively had very good kitchens, 33% and 31% of housing units in both estates respectively had good kitchens, while kitchens in 35% and 55% of housing units in both estates respectively were in fair conditions. Similarly, while kitchens in 1% of housing units in Lugbe Federal housing estate were bad, there were no bad kitchens in Gwarimpa II estate.

7.2 Condition of neighborhood facilities

The conditions of various neighborhood facilities within the study areas are analyzed and shown in the following tables.

Table 7.5 Condition of access roads

Attribute	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Tarred	302	81%	129	35%
Tar washed off	0	0%	60	17%
Untarred	69	19%	169	46%
Not Motorable	0	0%	6	2%
Total	371	100%	364	100%

Source: Author's field survey, 2011.

Table 7.5 shows that access roads to 81% and 35% of houses in Gwarimpa II and Lugbe Federal Housing Estates respectively were tarred. Access roads to 17% of houses in Lugbe Federal Housing Estate had the tar washed off but are still motorable, while 19% and 46% of houses in Gwarimpa II and

Lugbe respectively had untarred access roads. Only 2% of access roads in Lugbe Federal Housing Estate were not motorable, while all housing units sampled in Gwarimpa II had motorable access roads.

Table 7.6 Condition of drainage facilities

Attribute	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Good	371	100%	292	80%
Blocked	0	0%	72	20%
Not available	0	0%	0	0%
Total	371	100%	364	100%

Source: Author's field survey, 2011.

Table 7.6 shows that all houses sampled in Gwarimpa II estate had good drainages, 80% in Lugbe Federal Housing Estate also had good drainages, while the remaining 20% had blocked

drainages resulting in stagnant waters. Open drainages in the study areas were generally observed to be clean and well kept.

Table 7.7 Condition of street lights

Attribute	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Functional	286	77%	126	35%
Not functional	68	18%	189	52%
Not available	17	5%	49	13%
Total	371	100%	364	100%

Source: Author's field survey, 2011

Table 7.7 shows the condition of street lighting in the sampled estates. It shows that 77% and 35% of street lights in Gwarimpa II and Lugbe Federal Housing Estates respectively were functional, while

18% and 52% respectively were not functional. Of all the housing units sampled in both estates 5% and 13% in Gwarimpa and Lugbe respectively had no street lights in their immediate surroundings.

Table 7.8 Neighborhood cleanliness

Attribute	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Very clean	249	67%	95	26%
Clean	77	21%	143	39%
Fair	45	12%	83	23%
Dirty	0	0%	43	12%
Very dirty	0	0%	0	0%
Total	371	100%	364	100%

Source: Author's field survey, 2011

Table 7.8 shows the level of street cleaning and sanitation in the study areas. Based on observations made, 67% and 26% of housing units in Gwarimpa II and Lugbe respectively had very clean neighborhoods, while 21% and 39% in both

areas respectively had clean neighborhoods. Street cleaning and sanitation in 12% and 23% of housing units assessed were fair, while 12% of housing units in Lugbe had of dirty streets and poor neighborhood sanitation.

Table 7.9 Condition of Pedestrian walkways

Attribute	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Good	203	55%	124	34%
Bushy	168	45%	148	41%
Not available	0	0%	92	25%
Total	371	100%	364	100%

Source: Author's Field Survey, 2011

From table 7.9, 55% and 34% of pedestrian walkways in Gwarimpa II and Lugbe Federal Housing Estates respectively were good, while 45% and 41% in both estates respectively were bushy. Pedestrian walkways are not available in the immediate vicinity of 25% of the houses sampled in Lugbe Federal Housing Estate. Inspection further revealed that in some areas, dustbins and drums

(for waste disposal) are placed along these walkways. Bad odour emitting from these dust bins and drums pose serious health treats to pedestrians. Atimes, these dustbins are left to over fill and spill to the ground, thus pedestrians forced to walk on the road as walkways are littered with wastes.

Table 7.10 Security of Estate

Attribute	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Very secure	117	32%	163	45%
Secure	253	68%	195	53%
Insecure	1	0%	6	2%
Total	371	100%	364	100%

Source: Author's field survey, 2011

Residents' perception of the level of security in both estates is documented in Table 7.10. 32% and 45% in Gwarimpa II and Lugbe respectively described

the estates as being very secure, 68% and 53% in both estates respectively described it as secure, while 2% complained of insecurity in Lugbe.

Table 7.11 General landscaping

Attribute	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Very good	126	34%	36	10%
Good	167	45%	109	30%
Fair	78	21%	176	48%
Bad	0	0%	43	12%
Very bad	0	0%	0	0%
Total	371	100%	364	100%

Source: Author's field survey, 2011

From observations made, the state of landscaping in 34% of housing units in Gwarimpa II Estate were very good, 45% were good, while 21% was fair. Only 10% of housing units in Lugbe federal housing estate had very good landscaping, while 30% was good, 48% was fair and 12% was bad.

7.3 Extent of Housing Maintenance and Management.

Issues raised here relates to how well the sampled estates were managed and maintained, which is responsible for the present outlook of the estates. The extent and frequency of maintenance works is important if the essential objectives of maintenance is to be achieved. Frequency of maintenance is known to reduce obsolescence and the rate of deterioration of building components.

Table 7.12: Frequency of Housing Maintenance

Attribute	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Monthly	0	0%	0	0%
Yearly	43	12%	27	7%
When faults are reported	231	62%	141	39%
When funds are available	97	26%	196	54%
Total	371	100%	364	100%

Source: Author's field survey, 2011

Table 7.12 shows that only 12% of houses in Gwarimpa II and 7% of houses in Lugbe Federal Housing Estate had scheduled maintenance programmes. Repairs and maintenance works were scheduled to take place annually in these houses. As opposed to these, repairs and maintenance were carried out in 62% and 39% of houses in Gwarimpa II and Lugbe Federal Housing estates respectively only when faults were reported. Responses from interviews indicated that

maintenance here were unplanned and the managing agents had to as a matter of urgency put in place ad-hoc measures to correct observed faults. Similarly, 26% and 54% of households in both estates respectively only undertook repairs and maintenance works when funds were available.

Residents of the sampled housing estates also assessed the management and maintenance of their housing units as follows.

Table 7.13 Assessment of the management and maintenance of housing units

Attribute	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Very good	103	28%	56	15%
Good	167	45%	97	27%
Fair	85	23%	107	29%
Poor	11	3%	85	23%
Very poor	5	1%	19	5%
Total	371	100%	364	100%

Source: Author's field survey, 2011

Table 7.13 shows households' assessment of the management and maintenance of their housing units. Households in 28% and 15% of housing units in Gwarimpa II and Lugbe Federal Housing Estates respectively perceived management and maintenance as very good, 45% and 27% of households in both estates respectively perceived it as good, while that of 23% and 29% in both estates respectively perceived it as fair. Households in 23% of housing units in Lugbe described the management and maintenance of their housing

units as poor, as opposed to 3% in Gwarimpa II estate. Similarly, 1% and 5% of households Gwarimpa II and Lugbe Federal Housing Estates respectively complained of very poor management and maintenance.

It was observed that households who complained of poor management and maintenance were tenants. Houses in owner occupation were generally observed to be better managed compared to rented apartments.

Table 7.14 Assessment of housing design and standard

Attribute	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Very good	129	35%	68	19%
Good	102	28%	83	23%
Fair	97	26%	113	31%
Poor	43	11%	91	25%
Very poor	0	0%	9	2%
Total	371	100%	364	100%

Source: Author's field survey, 2011

Table 7.14 shows that 35% and 19% of households in Gwarimpa II and Lugbe Federal Housing Estates respectively were satisfied with the design and standard of their housing units which they described as very good. Households in 28% and 23% of houses in Gwarimpa II and Lugbe estates respectively described theirs as good, while 26% and 31% in both estates respectively described the design and standard of their houses as fair. Occupiers in 11% and 25% of houses in the respective estates however complained of poor

housing design and standard, with 2% of Lugbe residents describing theirs as very poor.

However, in the course of interviews and interactions with residents of both estates, quite a number complained of poor construction and poor quality building materials. They were therefore faced with the challenge of carrying out minor and major rectification works after purchasing the housing units.

Table 7.15 Assessment of the level of maintenance of neighborhood facilities

Level of Maintenance	Gwarimpa II		Lugbe	
	Frequency	Percentage	Frequency	Percentage
Very good	143	39%	39	11%
Good	154	41%	104	28%
Fair	57	15%	142	39%
Poor	17	5%	65	18%
Very poor	0	0%	14	4%
Total	371	100%	364	100%

Source: Author's field survey 2011.

Table 7.15 shows that 39% and 11% of households in Gwarimpa II and Lugbe Federal Housing Estates respectively were satisfied with the level of maintenance of neighborhood facilities which they described as very good. 41% and 28% respectively described it as good, while 15% and 39% described it as fair. 5% and 18% in both estates respectively were however dissatisfied with the level of maintenance of neighborhood facilities which they described as poor, while 4% in Lugbe Federal Housing Estate described it as very poor.

8.0 Conclusion

This research work successfully assessed the maintenance and management of Federal Housing Estates in Abuja. Issues raised herein indicates that housing management and maintenance are important components in sustainable housing delivery. Housing conditions in typical residential estates were thoroughly examined with a view to access the level of maintenance of houses, facilities and infrastructure in these estates and it is based on these that recommendations were made.

9.0 Recommendations

Based on findings from the study, the following are recommended:

- i. Minimum maintenance standards should be set for residents of federal housing estates. This will ensure that houses are maintained in good and decorative states of repairs.
- ii. Maintenance of neighborhood infrastructure should be improved upon. Preferences should not be given in the level of maintenance of neighborhood infrastructure in low and high income areas. Infrastructure generally should be properly maintained alike.
- iii. The planning process should be improved by the Federal Housing Authority to include maintenance planning.
- iv. Residents should be enlightened on the need to adopt good maintenance culture.

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