ASSESSMENT OF OCCUPIER SATISFACTION OF HOUSING ESTATES IN KEFFI LOCAL GOVERNMENT AREA, NASARAWA STATE, NIGERIA

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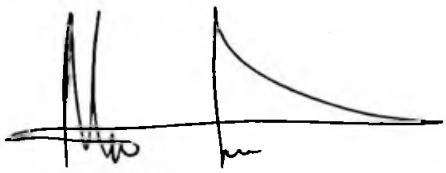
A DISSERTATION SUMMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, NASARAWA STATE UNIVERSITY, KEFFI IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE IN ENVIRONMENTAL RESOURCE MANAGEMENT

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DELCARATION

I hereby declare that this dissertation has been written by me and it is a report of my research work. It has not been presented in any previous application for the award of postgraduate Master of Science degree. All quotations are indicated and sources of information specially acknowledged by means of references.



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CERTIFICATION

This is to certify that this dissertation titled "**Assessment of occupier satisfaction of housing estates in Keffi Local Government Area of Nasarawa State, Nigeria**" meets the regulations governing the Award of Master of Science Degree, Department of Geography, Faculty of Environmental Science, Nasarawa State University, Keffi.

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DEDICATION

I dedicate this research work to God Almighty, the giver of life who made it possible for me to attain this success. I also wish to dedicate this research work to my family members for their moral and kind support toward the success of this work.

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ABSTRACT

In spite of the widely acknowledged importance of housing and various efforts in making adequate and affordable housing available to majority of people, a large proportion of urban residents in less developed countries such as Nigeria do not have access to decent housing at affordable cost. This study assessed occupier satisfaction of both public and private housing estates in Keffi Local Government Area of Nasarawa State. A total number of 517 structured questionnaire was administered to the residents of the housing estates; the Nasarawa State University Staff Quarters (NSUK QRTS), Federal Medical Centre Staff Quarters (FMC QRTS), WALIDA and AL-KABIR housing estates. Data obtained from respondents' rating on their level of residential satisfaction in the housing units on a 5- point scale was subjected to both descriptive and inferential statistics. Result of analysis revealed that the highest percentage (80.0%) of male respondents were in AL-KABIR housing estate, the least were in the NCCE. In contrast, the highest proportion (42.86%) of female respondents lived in the FMC QRTS, whilst the least (20.0%) lived in AL-KABIR housing estate. It was revealed that 68% of the respondents in FMC QRTS were male while 31.19% were female compared with male respondents in WALIDA hosing estate (60.87) and female respondents representing 39.13%. The result of the analysis on the type of tenure of the respondents shows that most of the respondents in the FMC QRTS, WALIDA and AL-KABIR provided dwelling were owner-occupiers. It was revealed that 42.40% of the housing units were 3-bedroom apartments, 35.59% were 2 bed rooms; 17.02% were 1-bedroom and 4.26% were 4-bedroom apartments. Result further showed that around 52.61% of the respondents rated the housing as inadequate, 30.56% claimed it was fair, 9.09% felt that their housing was adequate, 1.74% indicated that it was very adequate, while 6.0% perceived it as very inadequate. It was reveals that about one half (50.48%) of the respondents claimed that the level of adequacy of Housing Unit Attributes was fair, 18.96% felt they were adequate and 2.32% indicated that they were very adequate. However, 25.73% and 2.51% claimed that they were inadequate and very inadequate respectively. This result clearly shows that a majority of the residents' perceived housing provided in institutional housing in the study area as inadequate. It is recommended that architects and related professionals should give more attention to security of life and property, protection against noise, dampness, fire and dangerous insects in the design and planning of public housing. This is necessary if residential environment in public housing estates must contribute significantly to the enhancement of the quality of life of residents.

TABLE OF CONTENTS

		PAGE
Title Page		i
Declaration		ii
Certification		iii
Dedication		iv
Acknowledgements		v
Abstract		vi
Table of Contents		vii
List of Tables		x
List of Figures		xi
List of Appendices		xii
CHAPTER ONE: INTRODUCTION		
1.1	Background of the Study	1
1.2.	Statement of Research Problem	3
1.3	Research Questions	5
1.4	Objectives of the Study	5
1.5	Significance of the Study	6
1.6.	Scope and limitations of the Study	7
CHAPTER TWO: LITERATURE REVIEW		
2.1	Conceptual Framework	9
2.1.1	Concept of Sustainable Housing	9
2.2	Review of Related Literature	13
2.2.1	Studies in Public Housing	13
2.2.2	Assessment of Housing Quality	18
2.2.3	Assessment of Housing Satisfaction	22

2.2.4 Methods of Assessing Public Housing Schemes - - - 30

2.2.5 Factors Influencing assessment of Public Housing - - - 32

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Study Area - - - - - - - - 33

3.1.1 Location and Size - - - - - - - 33

3.1.2 Economic Activities - - - - - - - 36

3.1.3 Geology and Geomorphology- - - - - - - 36

3.1.4 Climate - - - - - - - - 36

3.1.5 Vegetation - - - - - - - - 37

3.1.6 Relief and Drainage - - - - - - - 37

3.2 Research Methodology - - - - - - 37

3.2.1 Research Design - - - - - - - 37

3.2.2 Study Population - - - - - - - 37

3.2.3 Nature and Source of Data - - - - - - 38

3.2.4 Sample Size - - - - - - - 38

3.2.5 Sampling Techniques - - - - - - - 39

3.2.6 Method of Data Collection - - - - - - 40

3.2.7 Method of Data Analysis - - - - - - 40

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.1 Socio-economic and Demographic Characteristics of the Respondents 42

4.2 Physical Characteristics of the Different Houses Units - - 48

4.2.1 Overall Housing Unit Attributes - - - - - 48

4.2.2 Additional Requirement in the Housing Units - - - 50

4.2.3 Housing Unit Attributes - - - - - - 51

4.3 Perception of Housing Adequacy - - - - - 57

4.3.1 Overall Housing - - - - - - - - 57

4.3.2 Adequacy of Housing Sub-Components - - - - 58

4.3.3 Housing Adequacy Across the Housing Delivery Strategies - 63

4.4 Residents Satisfaction with Housing Services - - - 66

4.4.1 Satisfaction with Housing Sub-Components - - - - - 68

4.4.2 Resident Satisfaction Across the Four Housing Delivery Strategies - 73

4.4.3 Evaluation of Residential Satisfaction Across the different Housing Estate 75

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary - - - - - - - - - 87

5.2 Conclusion - - - - - - - - - 89

5.3 Recommandations - - - - - - - - 90

Références - - - - - - - - - 92

Appendices - - - - - - - - - 104

LIST OF TABLES

Tables	Title	Page
3.1:	Population/Housing Size and Sample Size by Housing Unit and their Respective Sample Size - - - -	39
3.2:	Method Used in Data Analysis - - - - -	41
4.1:	Socio-Economics and Demographic Characteristic of Respondent	42
4.2:	Additional Requirements in the Housing Units - -	50
4.3:	Housing Typology - - - - - -	51
4.4:	Sizes of Housing Units - - - - -	52
4.5:	Modes of Acquisition of Housing Units - - -	53
4.6:	Evaluation of Housing Acquisition Process - - -	54
4.7:	Evaluation of Cost of Housing - - - -	55
4.8:	Overall Housing Adequacy - - - - -	57
4.9:	Overall Adequacy of Housing Unit Attributes - -	58
4.10:	Overall Adequacies of Housing Services and Infrastructure -	59
4.11:	Adequacy of Neighborhood Facilities - - -	60
4.12:	Adequacy of Management of Facilities - - -	61
4.13:	Regression Coefficients of Predictors of Overall Housing Adequacy	65
4.14:	Overall Residential Satisfaction in all the Housing Estates -	67
4.15:	Satisfaction with Housing Unit Attributes - - -	68
4.16:	Satisfaction with Housing Services - - - -	69
4.17:	Satisfaction with Location of Neighborhood Facilities -	70
4.18:	Satisfaction with Socio-Economic Environment of Housing Estates	71
4.19:	Satisfaction with Management of Housing Estates - -	72
4.20:	Dimension of Residential Satisfaction Description in the FMC QRTS	76
4.21:	Dimension of Residential Satisfaction Description of NSUK QRTS	79
4.22:	Residential Satisfaction Description in the WALIDA Housing Estate	82
4.23:	Residential Satisfaction Description in the AL-KABIR Housing Estate	84

LIST OF FIGURES

Figures	Title	Page
3.1:	Nasarawa State Showing Location of the Study Area	35
4.1:	Housing Typology - - - - -	48
4.2:	Sizes of Dwelling Units - - - -	49
4.3:	Individual Housing Adequacy Rating across the Delivery Strategies - - - - - -	63
4.4:	Residential Satisfaction Across Housing Delivery Strategies	73

LIST OF APPENDICES

Appendix	Title	Page
One:	Questionnaire for Staff of Institutional Houses Agencies	104
Two:	Questionnaire for Residents of the Housing Estates	106
Three:	Observation Schedule - - - - -	109
Four:	Architectural Designs of the Housing Estates- -	111

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The desire for adequate and affordable housing has strong links to the need for security, safety and proper socio-economic status of individuals and communities (UNFPA, 2007). In spite of this widely acknowledged importance of housing and various efforts in making adequate and affordable housing available to majority of people, a large proportion of urban residents in less developed countries do not have access to decent housing at affordable cost (Tipple,2004; UN-HABITAT, 2006; Greene and Rojas, 2008). As a result, most urban residents in developing countries live in housing conditions that constitute an affront to human dignity and which comes with appalling social, economic, spatial and health implications (Rondinelli, 1990; Cotton and Tayler, 1994; Opara, 2003; UN-HABITAT, 2006d; Coker *et al.*, 2007; UNFPA, 2007). Hence, inadequate housing condition has become an intractable challenge that has continued to receive attention from governments and individuals in many developing countries.

In line with human tradition which seeks to investigate, describe, understand and proffer solutions to ameliorate defects in human conditions, and enhance individual and collective well-being; both federal and private sectors have continued to take concerted efforts at addressing the social and economic challenges posed by inadequacies in housing provision in many countries of the world. These efforts have informed legislations, policies, strategies and reforms, which most often have culminated in various housing programmes (Sengupta, 2005; Sengupta and Sharma, 2008).

A review of literature shows that between 1950 and 2000, governments in many developing countries have engaged in different housing programmes and delivery strategies. For example, previous studies have shown that successive administrations in Nigeria had launched a minimum of seven urban housing programmes in the last few decades in a bid to address increasing housing challenges in the country (Akinmoladun and Oluwoye, 2007; Ademiluyi and Raji, 2008). However, substantial literature on urban housing quality in developing countries has revealed three main streams of criticism (Mukhija, 2004). First, it is argued that most urban housing schemes are inefficient and ill conceived, and thus failed to meet the needs of target population (Rondinelli, 1990; Mba, 1992). Second, direct government involvement in housing provision is viewed as being negligible compared to the volume of housing provided by informal private sector (UN-HABITAT, 2006a; 2006c). Finally, government intervention in the housing market to check rising cost of housing is seen as counter-productive and an impediment to smooth operation of housing market and efficient housing delivery system (Sengupta and Ganesan, 2004; Mukhija, 2004).Consequently, many scholars and stakeholders have argued that government has no business in providing housing for people, but rather government should act as a partner, enabler and facilitator of housing process by making available appropriate incentives, policy and good regulatory environment necessary for effective private sector participation in housing provision (World Bank, 1993; UNCHS, 2000).

In view of this, there is an emerging consensus that current approaches to urban housing be based on market-friendly policies and strategies that encourage reduction in government's direct involvement in urban housing provision. In regard to this, Ong and Lenard (2002) and UN-HABITAT (2006a) were however, of the opinion that this does not necessarily mean reduction in government's social responsibility in

providing housing for the citizens, but rather it implies the production of housing through collaborative approach in an integrated manner. These criticisms coupled with the need for sustainable solution to burgeoning housing challenges; most governments in developing countries are engaging in new housing policies, programmes and strategies that seek to meet demands of market-driven economies in addressing housing needs of their people (Sengupta and Ganesan, 2004; Sengupta, 2005; Sengupta and Sharma, 2008). This study undertook an in-depth assessment of residents' satisfaction in Housing Estate in Keffi Local Government Area of Nasarawa State.

1.2 Statement of Research Problem

Urban housing as a social intervention programme is designed according to peoples' perceptions of what seems to work based on practitioners' assumptions and logical reasoning (Birckmayer and Weiss, 2000). According to Weiss (2007), such a programme is born out of experience and professional lore. It is usually implemented based on defined strategies to achieve set goals. Preliminary investigations revealed that current efforts in urban housing in Keffi Local Government Area of Nasarawa State has so far relied on few housing delivery strategies in providing the planned number of housing units. It is expected that the housing estates inKeffi will result in the provision of adequate housing and improvement of aesthetics of the urban landscape, and ultimately lead to improved satisfaction of residents in urban housing estate.

However, till date, very little is known on the performance of these strategies. Moreover, several studies (Idemudia, 1980; Muritala, 1980; Bana, 1991; Ali, 1996; Ukoha and Beamish, 1997; Ilesanmi, 2005; Olatubara and Fatoye, 2007; Fatoye and Odusami, 2009; Jiboye, 2009; 2010) have evaluated urban housing schemes in

different parts of Nigeria. Each of these studies attempted at identifying areas of deficiencies in urban housing provision from residents' satisfaction point of view. But it has been observed that certain inadequacies which bear upon the focus and usefulness of the findings for factual judgment on the performance of, and validity of underlying theories in urban housing exist.

First, data used in the studies cited above were collected from selected urban housing estates built by government housing administrations in different housing programmes and periods rather than on housing estate developed through an integrated urban housing programme by a particular administration. Second, those studies placed little or no emphasis on assessing the plausibility and/or validity of the underlying theories in urban housing programme in which the housing estate were developed. Third, residents' perception of the level of satisfaction of housing provided and its influence on their quality of life were not assessed. Lastly, none of those studies focused on any urban housing estates within Keffi town, hence the need to assess occupier's satisfaction in both public and private housings in Keffi Local Government Area of Nasarawa State.

The problem with urban housing in Nigeria today has been succinctly articulated in the 1991 Nigerian National Housing Policy. This document asserts that lack of adequate monitoring and evaluation of housing policy implementation has contributed to the failure of urban housing provision in this country (Federal Republic of Nigeria, 1991).This submission was corroborated by Obashoro (2002) who noted that proper programme evaluation was rarely done in Nigeria, and as a result, it was very difficult to assess the real outcome of programmes in terms of their achievement level in the country. Moreover, Sanusi (2003) and Adedeji (2005) observed that a large quantum of literature on housing in Nigeria is derived from postulations, opinions, and

intellectual brainstorming rather than on proper investigation of the real situation. This goes to suggest that adequate attention has not been given to proper evaluation of urban housing in Nigeria, vis-a-vis their objectives and outcomes. This has partly accounted for dearth of empirical data on the outcome of urban housing in Nasarawa state particularly in recent times. Hence, there is gap in knowledge on the performance of different housing delivery strategies used in urban housing provisions, (1) the characteristics of housing provided (2) personalities and attributes of residents of housing units as well as (3) the extent to which housing provided has influenced the quality of life of occupants of housing estates in Keffi. Most importantly, there is also a gap in the understanding of the extent to which urban housing providers' perceptions and beliefs of housing provisions are working as social intervention programme. It is this gap in literature that this study attempted to fill. It is for this reason that this study assessed the residents' satisfaction of the housing estates in Keffi Local Government Area of Nasarawa State.

1.3 Research Questions

The study has the following research questions:

i) What are the socio-economic characteristics of residents in the Housing Estates in Keffi?

ii) What are the physical characteristics of housing units in the Housing Estates?

iii) What are residents' perceptions of housing adequacy in the study area?

iv) How are residents satisfied with the services provided in the Housing Estates?

1.4 Objectives of the Study

The aim of the study is to examine residents' satisfaction of housing estates in Keffi LGA of Nasarawa State, Nigeria. The specific objectives of this study are to:

i) Identify the socio-economic characteristics of residents in selected housing estates;

ii) Identify the physical characteristics of housing units in the Housing Estate;

iii) Examine residents' perception of housing adequacy in the study area; and to

iv) Examine resident's satisfaction with the services provided in the housing estates

1.5 Significance of the Study

This study on residential satisfaction of housing estates in Keffi LGA is no doubt an important one. This is going by the notion that the outcomes of current strategies engaged by government in solving the problem of providing adequate, affordable and sustainable housing in Keffi(a fast-growing Local Government area in Nasarawa state due to its proximity to the Federal Capital Territory) are not known. Therefore, this study is of importance for several reasons.

First, it can also help improve on their capacity and thus enhancing the productivity of the urban housing sub-sector. This study is justified on the basis that it attempts to provide basic information that will enhance knowledge on the selected key urban housing agencies in the study area. This is also considered necessary in assessing the outcomes of urban housing provisions and making useful recommendations.

Second, Mukhija (2004) noted that there is little consensus on the strategies and approaches governments should follow in addressing the housing need of their citizens. This suggests that research works are yet to focus attention on comparing outcomes of the various housing delivery strategies used in urban housing provisions to identify which strategies work best and under what conditions. This situation accounts for continuous engagement of inefficient and dysfunctional housing delivery

strategies, which Emerole (2002), Oladapo (2002) and African Ministerial Council in Urban Development (2008) noted was responsible for increasing housing supply deficit in Nigeria. By investigating the outcomes of housing estates in Keffi and the study is also be justified on the ground that it attempts to identify strategies with greater potentials for sustainable solution to housing challenges in Keffi in particular and Nasarawa state in general.

In view of mounting criticism on elitist orientation and the provision of poor quality housing in previous housing schemes in Nigeria (Mba, 1992; UN-HABITAT, 2006a), this study is very important in the sense that it examined the attributes of beneficiaries of urban housing, the physical characteristics of housing provided as well its level of satisfaction to the users. Moreover, in the light of rapidly changing societal values, aspirations and preferences, this study is particularly important to architects and other allied professionals involved in urban housing provision; as it attempts to provide empirical data that can form vital input for the design and planning of user responsive housing units and residential environment in future urban housing schemes.

Finally, apart from contributing to housing policy formulation and methods of evaluating urban housing schemes, this study is important in bridging gaps in existing literature on the concept of housing satisfaction. In all, this study will be of immense benefit to builders, architects, stakeholders, policy makers and researchers who are interested in improving residents' satisfaction of housing projects.

1.6 Scope and Limitation of the Study

The spatial scope of this study covered four housing estates in Keffi namely: Walida estate and Al-Kabir estate (Privately owned housing estates), Nasarawa State University and Federal Medical Centre Staff quarters (Government owned quarters).

Contextually, the study examined the characteristics of each housing units in terms of drainage, building typology, open space, toilet facilities and roofing type from the period of the completion of the housing estate till date. It also focused on the level of residents' satisfaction of the different housing estates in terms of quality of residential environment. The temporal scope of the study covered the period of ten years (2008-2018) from the inception of the housing estates in the Local Government Area.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 The Concept of Sustainable Housing

Housing embodies many concepts such as comfort, safety, identity and above all it has central importance to everyone's quality of life and health with considerable economic, social, cultural and personal significance. It is also a critical component in the social and economic fabric of all nations. No country is yet satisfied that adequate housing has been delivered to the various economic groups that make up its populace. It is estimated that there are more than 100 million homeless and about one billion people inadequately housed throughout the world (UNCHS, 1996; Eeguden, 2011). House building, forming the basic unit of human settlement in the built-up environment is also a crucial component for social development. It plays an important role in achieving sustainable development. The social and cultural factors determine the primary requirements of housing. Financial capacity or affordability to an individual has the immediate effect of transforming this need or requirement into a sound reality (Eeguden *et al.*, 2011). Technology acts as a catalyst to help in realizing this by providing affordable options suiting individual requirements and changing circumstances, along with accomplishing present demands, the needs and wishes of future generations should also be taken into account. The importance of sustainable housing forms the basis for this study. In the context of this study, a sustainable housing should embrace the following four closely interdependent aspects: socio-cultural, economy, technology and the environment.

a) Socio cultural needs

The concept of shelter differs from individual to individual depending on culture, tradition, profession and way of living. The design and materials used for the house

should correspond to the user's way of living and local building traditions (Christel Ebsen and Bjarke Ramboll, 2000). In most communities, houses are treated as part of the identity of the individuals labeling their status. People do not want to live in a house, which stigmatizes them as belonging to a low-income class. even if it is all that is affordable to them. The location and type of houses often reflect social inequalities. This also affects their social relationships, day-to-day living and ultimately the prospects of future generations. Besides being a basic necessity, it is also a source of identity that has a significant effect on the overall psychological wellbeing of the inhabitants. It acts as a matrix that strengthens family and community ties. Different groups of people within the society should be able to participate equally. Socio-cultural sustainability in housing involves several dimensions such as adaptability, equality, integration of amenities and services; self-help housing or beneficiary participation and community involvement.

Sustainable housing should respond to the socio- cultural needs and practices of the beneficiary households and communities. It is focused on housing development that promotes social interaction of individuals and cultural enrichment of the community and is aimed to reduce the inequality of housing between social classes (Islam 1996). At the same time, it accelerates the improvement in social development, relations and interactions.

b) Economic aspects

As improvement and development of society are closely related to economic development, socio-cultural sustainability is closely linked to economic sustainability. Economic growth is the key to provide the means to meet basic needs, to ease poverty and to generate employment, factors that are essential for sustainable development (Veron,2001). Even though housing problems arise as a symbol of poverty, mere

financial assistance usually does not help the poor in meeting their housing needs. The affordability of a household in any part of the world depends on its command over the various resources required for housing. The command over these resources must be given right priority while planning for any housing development programme. The most important financial resources are the actual and potential savings of the inhabitants.

This probably represents between 10 to 15% of all personal incomes (Turner, 1976). Housing programmes may be linked to programmes generating employment or income enabling the poor to afford their own houses and maintain them (Bhattacharya,1994). The housing sector is employment intensive; it generates employment during the construction period and also during its life for proper maintenance providing employment opportunities for skilled as well as unskilled labor (Glaeser, 1995 and Tiwari, 2001).

Economic sustainability or affordability of housing should be embedded in an economic development strategy, which strengthens the economic self-reliance of household members. The poor often cannot afford to accept public housing assistance due to the lack of economic sustainability or affordability of the schemes.

c) Technology concerns

Conventional building materials are beyond the reach of the majority of the world population due to their poor affordability. Besides the escalation in the cost of building materials, rising environmental concerns due to the extensive exploitation of natural resources connected with general construction and other housing development activities urges the need to search for alternative technological options. Alternative materials, methods and techniques of construction replacing conventional building

construction can result in reducing the depletion of natural resources and save energy (Reddy, B, V, V and Jagadish, K, S 2001).

Technology can be said to be sustainable only if, it takes advantage of local resources and can be produced locally using unskilled labor, utilizing already available materials without the need for heavy capital investment. It should benefit as many people as possible and should be flexible and functional also, i.e. adaptable to the changing needs of the community; at the same time, it should also be environmentally friendly.

It must be affordable and workable at community level. Feasibility, functionality, strength, durability and reliability are identified as the basic necessities for technological sustainability.

d) Environmental aspects

It is now generally agreed that development in the low-income countries must proceed in parallel with a general global application of new technologies, which are both less resource intensive and less environmentally damaging (Spence and Mulligan, 1995). In order to be sustainable, developments in economy and social changes should be able to sustain ecology and improve potential resources for future generations. Environmental sustainability in housing can be achieved by addressing resource limits of the environment through efficient consumption of non-renewable resources, minimizing the impact of waste materials and pollution by utilizing appropriate technologies and making use of local work forces. The construction industry is involved in activities, which adversely affect the environment through the over exploitation of non-renewable resources. It utilizes energy for the development or production and transportation of materials and machinery, building and also for

maintenance activities. According to the World watch Institute, building construction consumes 40 % of raw stone, gravel and sand, 25 % of virgin wood, 40% of energy and 16% of water used annually worldwide (Dimson, 1996). The processes involved in the provision and use of housing have a significant role in the contribution to solid waste. Household activities also supplement the accumulation of waste further polluting the environment. Reducing material wastage has several benefits. It reduces global material consumption and in the long term, also the amount of demolition waste. It also reduces construction costs, making houses more affordable. When properly done, recycling waste as building materials is a convenient way to reduce the environmental impact of the construction industry (Agenda 21 for Sustainable construction in developing countries).

2.2 Review of Related Literature

2.2.1 Studies in Urban Housing

Urban housing is a form of housing provision that relies on the use of urban funds in providing housing to citizens. Due to the intricate nature and multiplicity of stakeholders involved in urban housing provision, a considerable quantum of research efforts has been directed on various aspects of urban housing. These include urban housing policy, institutional framework for provision and management of urban housing, urban housing finance as well as urban housing schemes and their outcomes. This section of the thesis examines the different perspectives urban housing has been studied with a view to identifying specific aspect the current study is focusing on and situating it within the context of existing body of knowledge on the subject matter.

One of the major issues currently engaging the attention of administrators, scholars and practitioners in urban housing in across the globe is the different housing policy frameworks or systems and their outcomes in urban housing provisions. Urban

housing policy, in this context relates to comprehensive statements of intentions, ideas, strategies, guiding principles and philosophies put forward by government and international organizations to address housing challenges (Omole, 2001).

According to UN-HABITAT (2006c), housing policy is a set of minimum standards and core policy guidelines in housing delivery which ensure that key bottlenecks are addressed, and basic needs are met. The above definitions suggest that urban housing policy basically consists of decisions and action plans for implementing urban housing programmes to achieve set goals in the community.

Balchin *et al* (2000) identified three basic housing policy systems within the global context. These are liberal, corporatist and social democratic policy systems. In liberal regimes, such as the United Kingdom and Ireland, housing provision is controlled by the market with government providing subsidies to stimulate demand rather than supply while in the corporatist system (e.g. Germany, Austria, Switzerland) government acts as an enabler rather than a provider, but may act as a provider where the capacity of households to address housing challenges is inadequate (Balchin *et al.*, 2000). This is opposed to the social–democratic system such as in Sweden, where State intervention in housing is to promote equity.

Based on these different urban housing policy systems identified above, several studies (Onibokun 1985; Awotona, 1987; Erguden, 2001; UNHABITAT, 2006a; 2006c) examined what constitutes appropriate urban housing policy and trends in the evolution of urban housing policy. Findings of these studies show that there is no panacea for housing policy formulation, nor any globally accepted housing policy that best addresses local and national needs and conditions. UN-HABITAT (2006c) particularly suggested that appropriate housing policy should simultaneously address

supply constraints (by getting more land, cheap credit and materials into the markets), increase effective demand (by granting secure claims, and boosting employment and income generating activities), and ensures that interaction of supply and demand is not disadvantageous to any groups or lead to undue cost of housing. Moreover, the general consensus is that appropriate housing policy should provide effective framework for continuous decision making, and platform for maximizing options available to all socio-economic groups in meeting their housing needs without discrimination. On trends in the evolution of urban housing policy, Erguden (2001) noted that top-down strategies have given way to market and people centered solutions, processes and approaches with emphasis on institutional capacity building. UNHABITAT (2006a) identified three major phases in the evolution of global housing policy since the 1960s to include Phase 1: Large scale urban sector investment in mass housing production (e.g. direct construction of houses for the poor). Phase 2: Aided self-help housing e.g. upgrading, site –and-services and core housing and Phase 3: The enabling approach, which is the current global housing policy thrust, with emphasis on the contributions of all stakeholders in collaborative manner in housing provision. Another perspective urban housing has been studied is the assessment of institutional framework for urban housing provision and management. In the context of this study, institutional framework consists of system of interacting and interdependent organizations designed by people for the purpose of productive collaboration within established norms, rules and constitutions (Akinola, 2007).

Arimah (2000) noted that in three of the five different perspectives performance of urban housing sector can be examined is by looking at housing producers, housing finance institutions and governments who constitute key institutions in housing

process. It is for this reason that the formation, structure, sustenance of formal and informal institutions, their role as actors and intermediaries in urban housing as well as the consequences their interactions generate in diverse settings have continued to engage the attention of scholars in housing studies.

Consequently, a number of studies (Rondinelli, 1990, Chukwujekwu, 2005; Ademiluyi and Raji, 2008; Boyode, 2008; Hsieh, 2008) had examined the institutional framework in urban housing production and management in Developing Countries. These studies found that increasing housing challenges in many Developing Countries has strong link to inappropriate institutional framework. These studies suggested the evolution and restructuring of the institutional framework for urban housing delivery and management in line with current realistic approach to effective urban housing delivery. Elsewhere, Hsieh (2008) in a study of institutional framework for the management of condominium in Taiwan noted that appropriate institutional framework was the key to successful management of this class of residential buildings in that country. All these observations in earlier studies underscore the importance of institutional framework in urban housing provisions. Another aspect of urban housing which has consumed research efforts among scholars and researchers is urban housing finance system. This assumed a topical issue in urban housing from the 1980s when the great recession swept across the world and governments in Developing and Developed Countries were in search of ways of reducing expenditure on social provisioning (Bovaird, 2004).

In view of declining investment in urban housing, current research in urban housing finance system is focusing on alternative sources of finance for urban housing. Recent studies (Mitlin, 2007; 2008) highlighted the key role of not-for-profit private sector organizations and donor agencies in urban housing finance in Africa, Asia and Latin

America. In the UK, urban housing for poor and low-income group (social housing), is provided by social landlords with financial support from the State (Keats et al, 2008).

In Nigeria, previous studies (Nubi, 2000; 2001; Ajanlekoko, 2001) examined urban housing finance system in this country. Findings of those studies show that poor funding was the bane of urban housing delivery in Nigeria. Hence the studies suggested re-engineering of urban housing finance system for better results in the country.

Urban housing has also been studied from the perspective of the processes and outcomes of urban housing schemes. Literature search on process and outcomes of urban housing schemes in Nigeria revealed that a wide range of studies examined physical conditions (Idemudia, 1980; Muritala, 1980), volume of housing units provided (Bana, 1991; Ali, 1996; Gana, 2002; Mustapha; 2002), quality (Onibokun, 1985; UN-HABITAT, 2006d), affordability and accessibility of housing units provided to low-income people (Mba, 1992; Mbamali and Okoli, 2002; Oruwari, 2006), residents' satisfaction with urban housing (Ukoha and Beamish, 1997; Olatubara and Fatoye, 2007, Fatoye and Odusami, 2009; Jiboye, 2009; 2010) as well as social equity in urban housing provisions (Ilesanmi, 2005). Other studies (Awotona, 1990; Ajanlekoko, 2002; Nwaka, 2005; Akinmoladun and Oluwoye, 2007) examined the outcomes of the different urban housing delivery strategies.

The consensus in these studies is that process and outcomes of the different strategies in urban housing in Nigeria have not yielded expected result, most particularly in the provision of adequate number and quality of affordable housing units that meet the socio-economic, cultural and physiological needs of residents.

From the above discussion, the aspects of urban housing this current study is interested in is evaluation of the overall outcome of urban housing provision with emphasis on qualitative satisfaction of urban housing as well as level of satisfaction and quality of life of residents in housing. This is in view of the fact that there are limited empirical studies on the subject matter, particularly from Nigerian perspective

2.2.2 Assessment of Housing Quality

Assessment of housing quality is another conceptual approach used in the evaluation of urban housing. Quality generally connotes standard and mark of acceptability. According to Coker et al (2007), housing quality is closely related to housing standards and the quality of a residential area mirrors urban development, planning and allocation mechanisms between socio-economic groups, but also shows the quality of life of the residents. This implies that housing quality has social, economic and environmental dimensions.

Unlike housing satisfaction, Formoso and Jobim (2006) noted that perceived quality refers only to users' most current reactions which can be inferred with or without use or experience, but does not include price. This is an indication that housing quality is a perception that has to do with personal attitude and attributes. Onibokun (1985) noted that housing quality encompasses the structure and internal adequacies of dwelling units, availability of amenities, occupancy rate, neighborhood conditions, and the habitability of housing. This implies that housing quality can be considered as highly valued attributes which housing possesses that enables it to meet users' needs. Features such as durability of construction materials, structural soundness, spatial satisfaction, and availability of basic services such as water, sewerage and electricity, location in an area with good connections with other parts of the city and

infrastructure and secured tenure are considered to be indicators of good quality housing in line with the definition of adequate housing (UN-HABITAT, 2006).

Therefore, housing quality can be considered to comprise attributes of housing that enables it perform the vital functions of promoting healthy housing, better living conditions, and contributing to physical and psychological wellbeing and at the same time supporting the development and social integration of individuals and the community. Amerigo and Aragones (1990) noted that a person's evaluation of a place is a complex, multidimensional, global appraisal system that combines cognitive, affective, and behavioural facets, as well as multiplicity of both subjective and objective variables. In other words, people's perceptions of reality influence their perception of a particular house and its surroundings (Domanski *et al.*, 2006). Canter (2003) and Kaitilla (2003) identified the subjective approach to evaluation of housing environment as one that recognizes the assessment of quality of housing and residential environment with respect to subjective environment as well as physical characteristics of housing structure and its conditions. Thus, subjective evaluation approach relates to occupants" perception of the quality and level of satisfaction with housing environment. This view was corroborated by Mohit *et al.*, (2010) who asserted that subjective evaluation approaches include measurement of perception, satisfaction, aspiration and disappointment, and is closely related to the psychological attributes of an individual. This implies that one's assessment of a place depends on how the place is perceived as well as the socio-economic characteristics of the individual. For this reason, a house or environment may be perceived by some people as being of high quality, while for others it may be of lower or no quality.

There is also the objective approach to evaluation of housing environment. Kaitilla (2003) and Mohit *et al.*, (2010) noted that the objective approach evaluates the

physical characteristics, facilities, services and environment based on some predetermined criteria and standard of comparison against which the place is judged. This suggests that local, national or global parameters can be engaged in assessing housing quality. According to Mohit *et al.*, (2010), the objective aspect of evaluation of residential environment measures the physical characteristics of housing, services and environment, but such evaluation is usually deficient in assessing and explaining the psychological aspects of perception of quality and satisfaction; hence the need for subjective measurement which can capture perception, aspiration, satisfaction and disappointment aspects of an individual . In line with this view, van Kamp *et al.*, (2003) suggested an integrated model for studying the quality of housing environment that addresses the multiplicity of issues related to subjective opinions and objective measurements under various socio-cultural and economic factors as well as local conditions. All these imply that the evaluation of perception on quality of residential environment should follow an interdisciplinary approach integrating physical, spatial, social, and environmental aspects within the context of various socio-cultural, economic factors and local conditions. To this end, it is argued that evaluation of residents' perception of quality of urban housing should look beyond housing attributes and examine external factors that might be of significant influence on the quality of housing, services and surrounding environment.

From the foregoing, one could infer that perception on and judgment about housing quality are based on a complexity of subjective and objective parameters associated with individual's previous experience, cultural values, personal attributes, perceptions, aspirations, goals, needs as well as generally defined and acceptable standards. The objective and subjective features of housing environment and personal characteristics of an individual are viewed as key factors influencing perception and

evaluation of the quality of residential environment. Therefore, the evaluation of housing environment is a function of how housing attributes are perceived by an individual and the standard reference to which such attributes are compared with. Housing quality is one of the six housing norms, which also include space, tenure, structure expenditure and neighborhood norms identified by Morris and winter's housing adjustment and adaptation theory (Morris *et al.,* 1976). According to the theory, norms are culturally derived criteria that households use to judge their housing and that of others. Kutty (2009:28) argued that the commonly used indicators of quality norms in housing are structural satisfaction, neighborhood quality, residents" perception of neighborhood safety, level of urban services provided, access to work and other amenities, room density and housing affordability. Moreover, Austin and others (2002) and Kaplan and Kaplan (2003) observed that the most important aspects of residential quality in literature are social ties in the neighborhood, safety from risks, environmental hygiene and presence of basic facilities.

Although the evaluation of performance (Fatoye and Odusami, 2009), assessment of habitability (Onibokun, 2014) and evaluation of satisfaction (Ogu, 2002; Mohit *et al.*, 2010) is synonymous with the assessment of quality, most empirical studies have adopted various housing quality indicator measures in assessing housing quality in different countries across the world (Lawrence, 2015). In the 1930s, the United State (U.S) government employed overcrowding, physical deficiencies and excessive shelter cost expenditures in measuring housing quality. Zey-Ferrell et al (2007) used housing quality index consisting set of indicators: interior and exterior housing condition, heating and cooling, indoor plumbing, and persons-per-room to assess housing quality. The study found that households living in rented housing in northern Louisiana, U.S.A had lower housing quality than households who owned their

dwelling. Moreover, households with higher levels of education tended to occupy better housing than those with lower levels.

2.2.3 Assessment of Housing Satisfaction

One of the key areas of focus of this study is residents' perception of the level of satisfaction of urban housing in the study area. Therefore, the concept of adequate housing is very important to this study. It is for this reason that this section of the thesis is devoted to the review of literature on adequate housing with a view to presenting how housing satisfaction has been conceived in literature. Literally, the word "satisfaction" is a relative term generally understood to mean sufficiency in quantity or quality to meet a need for something. This implies that the concept of housing satisfaction has two dimensions: qualitative and quantitative adequacies. Onibokun (1985) and Oladapo (2006) identified qualitative in satisfaction as the key problem of urban housing in Nigeria, and this is probably because quantitative satisfaction can be addressed by increasing significantly the housing stock, but qualitative satisfaction is an intricate and complex challenge which affects the psyche of housing occupants. Bonnefoy (2007) noted that the concept of adequate housing is one that is yet to be properly investigated, however, adequate housing is known as one of the most basic biological, psychological, social and economic needs of individuals, families, communities and society at large. Thus, the provision of adequate housing is a key strategy for improving quality of life, combating exclusion and discrimination as well as strengthening social cohesion. Despite the above, result of literature search revealed that most scholarly works on adequate housing are clustered around what constitutes housing in-satisfaction and its consequences. Similarly, there have been few attempts to investigate peoples' perception on what makes their housing environment adequate or inadequate.

The American Urban Housing Association (1946) quoted in Onibokun (2005) indicated that a shelter can be called adequate housing if it is decent, safe, habitable and affordable in meeting the four-fold functions of physiological and psychological needs, protection against contagions and accidents. Moreover, the International Covenant on Economic, Social and Cultural Rights on the other hand used seven criteria, including legal security of tenure, affordability, habitability, accessibility, location and availability of services and cultural identity to describe what adequate housing means (Thiele, 2002).Based on the above, Zubairu (2002) concluded that having a shelter over one's head does not constitute access to adequate housing, rather adequate housing means housing that has the following attributes: decency, security, privacy, spacious, healthy, affordable, legally secured tenure, habitable, accessible, and appropriately located with services and infrastructure. The key inference that can be drawn from the foregoing discussion is that adequate housing describes the totality of the attributes housing has, which enables it meet a wide range of physiological, psychological, social and economic needs of users within various social, economic, cultural, environmental and political contexts. This means that adequate housing is a multi-dimensional concept that can be viewed in many different ways according to individual perspective and circumstance. Thus, it could be concluded that what constitutes adequate housing in one context may not necessarily be considered as adequate housing in another context. But, the key components of adequate housing, is that it must comply with health, safety, affordability and habitability standards.

Following the foregoing submissions, the inadequate housing therefore refers to housing that lacks the fundamental attributes that enables it meet the needs of users. It shows manifestation in residents' lacking specific amenities; living in overcrowded housing with poor environmental quality. Braubach (2007) noted that there is

mounting evidence in literature indicating that health status of residents is adversely affected by qualitative inadequacies of their residential conditions and the built environment. This was corroborated by Domanski *et al* (2006) when they asserted that inadequate housing conditions pose a threat to well-being and self-development. They further noted that inadequate housing may lead to a significant level of economic, social and political conflict. As well; Flippen (2004) suggested that diversity of housing conditions is an indication of social difference and the level of polarization within a particular society. Therefore, Kahlmeier *et al.*, (2001) concluded that it was not surprising that housing satisfaction and wellbeing constitute key issues on political agendas of developing and developed countries.

Most empirical studies on qualitative satisfaction of housing have tended to focus on the various aspects and components of housing satisfaction as identified above. Krieger and Higgins (2002) and Reilly (2008) noted that a dwelling is fit for human habitation if it meets a number of requirements, namely: structural soundness, free from repair, and dampness prejudicial to health of occupants, adequate provision for lighting, heating and ventilation. Others are provision of satisfactory facilities for the preparation, cooking and storage of food, adequate supply of wholesome water, and efficient system for draining of foul, waste and surface water. Many of these physical characteristics of housing environment identified above are known to have influence on mental health and social pathology of occupants, suggesting that deficiency of any of them can contribute to mental disorder (Parker et al., 1994; Rauh et al., 2002; Shannon, 2003).

A host of other studies focused on the relationship between housing and quality of life, and findings of such studies have shown that inadequate housing conditions play decisive role in the quality of life of people (Thiele, 2002). Whereas Ferrell et al

(1977) associated housing satisfaction with socio-economic characteristics of occupants, several other research studies (Lall, 2002; Gilderbloom et al., 2005; Marcano and Ruprah, 2008; Obeng-Odoom, 2009) indicated that inadequate housing was associated with poverty; lack of support services and poor physical state of building fabrics as well as lack of provision of economic opportunities in India, the USA, Chile and Ghana respectively. Particularly, the study by Obeng-Odoom (2009) identified both socio-economic variables and consumer preferences as having direct association with housing satisfaction. In Nigeria, qualitative satisfaction of housing has been assessed based on access to basic amenities (Adedipe and Lasisi, 2006; Aribigbola, 2008), quality of housing units and neighbourhood environment (Muoghalu, 1991; Coker et al., 2007) as well as housing satisfaction (Ogu, 2002). Most studies in this country indicated that lack of access to basic amenities (electricity, clean water, sanitation and social services), structural in satisfaction of housing units; unhygienic neighborhood environment and high occupancy rate were key features of inadequate housing environment. In view of the foregoing discussion, in the context of this study, adequate housing is conceived as housing that is decent, safe, accessible and affordable as well as provides residents with access to services, infrastructure and basic facilities. Therefore, the following section of this thesis dwells on the review of literature on the aforementioned attributes of adequate housing as conceived in this study.

(i) Decent Housing

One of the sub concepts or ways in which satisfaction is conceived in literature is decent housing. Decency means different things to different people. The dictionary meaning of decent connotes satisfaction or sufficiency in quality and quantity. Bailey and Spendolini (1977) argued that although the ultimate goal of urban housing is the

provision of decent housing, there are no acknowledged criteria for defining and measuring decent housing. However, few attempts have been made to define and describe decent housing. In terms of habitability, Housing Support Unit (2000), Krieger and Higgins (2002) and Reilly (2008) suggested that a dwelling is fit for human habitation (decent) if it meets the following requirements: (i) structural soundness (ii) free from repair (iii) free from dampness prejudicial to health of occupants, (iv) adequate provision for lighting, heating and ventilation, (v) satisfactory facilities for the preparation and cooking of food, including a sink for the supply of hot and cold water, (vi) suitably located water closet for the exclusive use of the occupants (vii) suitably located fixed bath or shower and wash-hand basin with each provided with satisfactory supply of hot and cold water for the exclusive use of the occupants (viii) adequate supply of wholesome water and (ix) efficient system for draining of foul , waste and surface water. Although, decent housing appears to be a relative term, a number of attributes identified above are considered key attributes for assessing decent housing in this study.

(ii) Safe Housing

Another attribute of adequate housing that deserves attention in this study is safety. Globally, the desire for security of one's person, home and family or community is a natural and powerful one. Awotona (1982) observed that housing occupants need protection not only from rodents, and dangerous animals but also from human intruders. Safe housing has the basic characteristics of protecting its occupants from injuries: burns, falls and loss of live. Mitchell (1976) and Bamisile and Zubairu (1997) observed that building codes are the main guardian architects and housing designers often rely on to ensure housing designs meet health and safety standards. In his work, Safe Housing: Body, Building and the Question of Security, Kawash (2000)

viewed the concept of safe housing as a combination of social formation and architectural and a melting pot form of security and architecture. He suggested that safe housing consists of internal safety and external security of the housing environment. Drawing on Oscar Newman's 1972 work on "defensible space", Mitchell (1976) contended that if spaces where crime and accidents most frequently occur in the home are eliminated, safety concerns in housing would decline.

(iii) Healthy Housing

Healthy housing is another sub-concept of adequate housing adopted in this study. Health has been defined as a state of complete physical, mental, and social well-being and not merely the absence of diseases or infirmity (Mitchell, 1976). According to the Committee on Hygiene of Housing of the American Urban Health Association, a healthy housing is one that meets four categories of needs, namely, physiological needs (e.g. good indoor air quality, thermal comfort, adequate lighting, noise insulation and close and safe play lots for children and adults), psychological needs (e.g. privacy, accessibility to place of worship, schools, recreational facilities and urban spaces for community life) protection against contagion (e.g. communicable diseases, diseases vectors) and protection against accidents (e.g. fall, fire hazards, structural stability).Thiele (2002) noted that the health aspect of adequate housing requires housing to be habitable by providing inhabitants with adequate space, and protecting them from cold, damp, heat, rain, wind, or other threats to health, structural hazards and disease vectors. Examination of the above principles shows that the first principle to ensure adequate housing is through safe water supply, sanitary disposal of excreta, disposal of solid wastes, drainage of surface water, personal and domestic hygiene, safe food protection, structural safety and protection against disease transmission. The second principle addresses the use of design principles and

construction materials and techniques to ensure the physical, mental and psychological wellbeing of occupants of housing. The relationship between housing and health has been investigated in several studies (Adams, 1949; Filfil, 1999; World Health Organization, 2004; Bonnefey, 2007), and many major reviews (Wilkinson, 1999; Cohen, 2007) attempted to pull together disparate evidences, fragmented research findings in different disciplines. Kasl (1990) suggested that residential environment has limited impact on the physical and mental health of people, whereas copious evidence in literature shows increasing research findings associating housing quality with morbidity from infectious diseases, chronic illnesses, injuries, poor nutrition, and mental disorders (Wilkinson, 1999; Rauh et al., 2002).

(i) Accessible Housing

Accessible housing is also viewed as another sub concept and attribute of adequate housing. The accessible attribute of housing is very crucial as social view of housing provision relates to a situation in which all citizens have access to housing without limitations as to one's socio-economic background or status in society. The relevance of this view to housing accessibility is in ensuring that housing provision is not focused on some „chosen" segments of the society but that all members of the community have equal opportunity to choose their own accommodation according to their means or affordability (Okewole and Aribigbola, 2006). Urban housing provision that ensures social equity generates good quality and affordable housing and allocates its benefit equitably across all socio-economic groups. It also empowers every member of the community to gain access to decent housing at affordable costs rather than excluding any section of the society. This means that accessible housing is one that is physically available and economically accessible by all segments of the society. Evaluating urban housing from the accessibility point of view therefore

implies assessing how urban housing delivery system ensures social equity in providing every member of the community opportunity to choose housing options based on one's level of income as provided in the Universal Declaration of Human Rights and the charter of the International Covenant on Economic, Social and Cultural Rights (Thiele, 2002).

(v) Affordable Housing

Closely related to accessible housing is another very important attribute of adequate housing called affordable housing. The concept of affordability is one that has received notable attention in housing literature. In fact, it has been defined as the cost of buying, acquiring or maintaining a facility or product as compared with that portion of the user's monthly income set aside for expenses on the facility or product (Mbamali and Okoli, 2002). According to Oruwari (1993:26), "*affordability describes the extent to which households are able to pay for particular goods and services*". In relation to housing, Oruwari (1993) further noted that affordability came into housing literature several decades ago in Europe when housing shortage went down and urban debate in many countries in Western Europe began to focus on affordability as a major housing issue, while in developing countries it was in recognition that housing projects required heavy subsidies for accessibility to low-income people. Affordable housing connotes different things to different people. Consequently, a lot of research effort has gone into evaluation of affordability of urban housing in many developing countries. Daramola (2006) noted that the term affordable housing creates images of crime-infested, poorly managed housing in derelict neighborhoods and housing for the poor. Some authors also associated affordable housing to low-cost housing (Bassey, 1988; Nelson, 1994; Pomeroy, 2001), social housing (Carter, 1997) and low-quality housing (Quigley and Raphael, 2004).

2.2.4 Methods of Assessing Urban Housing Scheme

Another issue that is as important as the approaches to the assessment of urban housing is the methods used in previous studies in assessing urban housing. Result of literature search shows that several studies on urban housing schemes across disciplines in different countries involved the use of different research methods such as household survey, oral interviews, observations, Geographic Information System (GIS) as well as a combination of methods in examining various aspects of urban housing. Several studies including (Margulis, 1975; Onibokun, 1976; Morris et al, 1976; Kantrowitz and Nordhaus ,1980; Muoghalu, 1991; Wiesenfeld, 1992; Kaitilla, 1993; Ukoha and Beamish, 1997; Djebarni and Al-Abed, 2000; McNulty and Holloway, 2000; Quallian, 2005; Ilesanmi , 2005; Gilderbloom et at., 2005; Potter and Cantarero, 2006; Yeun et al , 2006; Jaafar *et al.*, 2006 Erdogan, 2007; Obeng-Odoom, 2009) which focused on housing and residential satisfaction and liveability of urban housing schemes are based on household survey method with questionnaires and oral interviews as key data gathering instruments .

Similarly, other studies (Edgar and Barton, 1983; Bratt, 1986; Magutu, 1997; Lall, 2002; Liu, 2003) which examined the impact of urban housing on consumption pattern, property ownership, and provision of decent and affordable housing as well as poverty reduction among residents also employed household survey method with observations and oral interviews as methods of data collection. Moreover, in studies such as (Kantrowitz and Nordhaus, 1980; Kaitilla, 1993; Hanson *et al.,* 2004; Gilderbloom *et al.,* 2005) where the sample frames were below 500 households, the sampling sizes were between 20 percent and 55 percent of the sampling frames, whilst in other studies (Onibokun, 1976; Ukoha and Beamish, 1997; Lall, 2002) involving

sampling populations of over 500 households, the sampling sizes were between 0.6 percent and 5.5 percent of the sampling frames.

Whereas studies (Lall, 2002; Hanson *et al.*, 2004) adopted stratified sampling techniques others employed random sampling techniques in selecting respondents. The choice of survey method in those studies was underscored by two reasons. First, was the need to collect data from a relatively large population of occupants of housing Estate (Kaitilla, 1993). Studies including (Arimah, 2000; Sengupta and Tipple, 2007; Ruprah and Marcano, 2007) that assessed the performance of urban housing and impact of urban housing on housing ownership and overcrowding relied on the review of existing official data derived from household surveys.

All these suggest that as the sampling frame increases, the proportion of the sampling size reduces. and depending on the sample frame, different sampling methods can be used to arrive at suitable sample size. They also show that household survey method can result in the generation of both quantitative and qualitative data that can be subjected to different kinds of analyses. Geographic Information System (GIS) had also been used in the evaluation of urban housing schemes. This was used in studying accessibility to services and facilities by residents and locational attributes of urban housing schemes. For instance, Apparicio and Seguin (2006) adopted GIS in assessing the location of urban housing in relation to availability of urban services in Montreal, Canada. The study was based on secondary data derived from existing data bases obtained through household surveys and population census.

On the other hand Hanson et al (2004), Sengupta and Tipple (2007) Marcano and Ruprah (2008) employed a combination of methods, namely: interviews, household surveys, review of official statistics, quasi-experimental and hedonic pricing methods

in evaluating various aspects of urban housing such as programme rationale; process; impacts and effects; achievement of objectives and cost- effectiveness. The use of multiple methods in those studies was to enable the examination of a wide range of issues in different housing programmes at the same time and for the triangulation of data (Hanson *et al.*, 2004).

2.2.5 Factors Influencing assessment of Urban Housing

From the foregoing review of literature, a number of key factors can be considered to be of significant influence in the evaluation of urban housing. These include multidisciplinary nature of housing, evaluator's conception of housing, the goal and nature of evaluation and the context in which urban housing is operated and evaluated. Evaluation of urban housing is a multidisciplinary Endeavour as researchers in disciplines such as social sciences, architecture, urban health, social welfare, urban planning, urban administration, geography among others are involved. Therefore, disciplinary and philosophical orientation of researchers partly accounts for differences in the conception and approaches to evaluation (Rossi *et al.*, 2004). Bamberger *et al* (2006) were of the opinion that the choice of approach to evaluation determines size, nature of evaluation research. Thus, the disciplinary orientation of researchers is a fundamental issue in determining the approach to evaluation, and can therefore be considered as one of the factors influencing evaluation of urban housing. Closely related to the above is the conception of what housing is. Zami and Lee (2010) noted that housing implies various things to different persons. It has been observed that several authors have defined housing as a physical structure (product) only, physical structure and ancillary services and process of producing house (Omole, 2001). It is also noted that housing has been viewed as a social and economic commodity and a product of political process. Hence, it is argued that the different

understanding and conceptions of housing amongst professionals and researchers influence the nature, success and failure of housing projects (Taher, 2001; Zami and Lee; 2010). This implies that housing can be evaluated based on the perception and understanding of the evaluator. To this end, one of the factors influencing the evaluation of urban housing is the conception or definition of urban housing as viewed by the researcher.

Another key factor influencing the evaluation of urban housing is the function of housing. Generally, housing is known to serve a wide range of social and economic needs. For example, evidence in literature (Onibokun, 1985; Erguden, 2001; Bonnefoy, 2007) shows that housing serves physiological, psychological, social and economic as well as security needs. For this reason, evaluation of urban housing had tended to focus on how housing has been meeting these needs at family, neighborhood and community levels, and thus determines the levels and dimension of evaluation. This suggests that the basic function of housing to individuals, the community and society at large influences how urban housing can be evaluated.

Finally, it is known that urban housing as a social programme is not operated in a vacuum, but rather within the context of a range of socio-economic, political and cultural, as well as technological factors (Rossi et al., 2004). Consequently, the design, implementation, output as well as outcome of urban housing provisions are influenced partly by the external context where urban housing schemes operate. This means that the key components of urban housing: operators, housing provided and beneficiaries are usually the focus of evaluation studies. In view of this, it is thought that the contexts in which urban housing operates and is evaluated have significant influence on the approach and outcome of evaluation of urban housing.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Study Area

3.1.1 Location and Size

The study area covers Keffi and its metropolis with an approximate land area of about 120 square kilometers. Keffi Local Government Area is located in the basement complex of northern Nigeria between longitude 7°.49'03'' and latitude 8° 46; 8° 53'5''(Figure 3.1). It stands at an elevation of 400 meter above sea level. It was created in 1976 and is undergoing rapid population growth and infrastructural development due to its proximity to the Federal Capital Territory, Abuja. The town is a gate way to the Federal Capital of Nigeria for it share border with the centre of unity. Keffi has a population density of 450-500 persons per km^2, making it one of the most densely populated local governments of Nasarawa State.

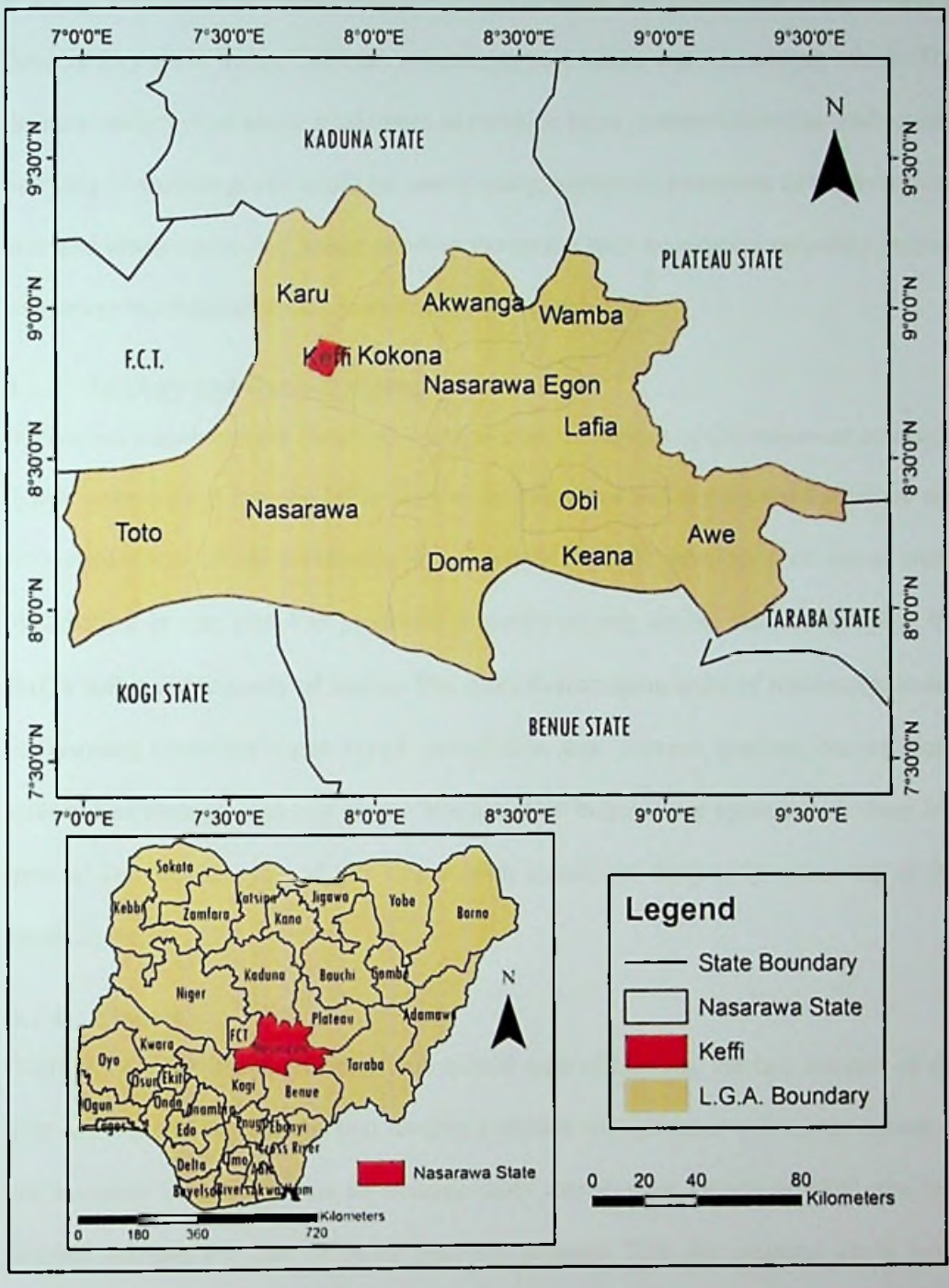


Figure 3.1: Nasarawa State showing location of the study area

Source: Nasarawa Geographic Information System (NAGIS, 2018)

3.1.2 Economic Activities

A lot of economics activities take place in this area; the people are predominantly farmers they grow food crops such as cassava, yam maize and rice among others. The farmers make use of crude implement to produce farm products likewise trading and hawking of various goods could be seen in shop, kiosks on pavement or tables at road side and along major and minor street in the area. Other economics activities include carpentry; mechanical works, motor transport service etc.

3.1.3 Geology and Geomorphology

Several rock outcrops are found all over the area: extrusions of the basement complex. These outcrops fall into the Lafia sand stone formation which consist of siltstone and imbedded clays all of cretaceous age. Laterite is well developed in some areas. Weathering in the area has produced a gentle rolling almost flat topography; the fertile soil is either sandy or loamy. The older Precambrian units of metamorphic and sedimentary rocks are types found around this area. Steeper gradient occurs along stream cuts through rock out crops. Where valley bottoms are approached, there is a general convex steeping of hill slopes with ironstones frequently occurring at the break in slope.

3.1.4 Climate

Keffi L.G.A fall into the tropical sub humid type of climate, the two seasons of the year are wet and dry seasons that roughly coincide with summer and winter season of the northern latitudes. It has an average daily temperature ranges of 25°C, the two distinct seasons are wet or rainy and dry seasons. The dry seasons starts from November 10 March, while the wet season starts from April to October. The major peak of dry season between December and January witness temperature values which varies from 23°c 31°c with low temperature in the month of June to September and high in November to April (NIMET, 2004).

3.1.5 Vegetation

The vegetation of Keffi Local Government Area is Guinea savannah and the floristic composition is heterogeneous with a variety of species made up of small trees (scattered), interspersed with shrubs, grasses and arable crops. *Parkiabiglobosa* is the dominant and major economic tree species found in the area. Other fruit tree crops found within the community are *Azadirachtaindica (*dongoyaro*)* used for medicine, insecticide, etc. *Samania avenue* serve as shade, *Citrusspp.* (orange, grape fruit, etc.) are used as food supplements. There existed some small patches of farmlands with maize at their various stages of growth.

3.1.6 Relief and Drainage

The area is low laying plain. There are few undulating areas; very hills prominent among them are the Maloney hill and Tudun Amama hill. The area is drained by Antau River which rises from Gunduma hill and goes as far as Kogin Koto near Nasarawa local government and precedes into River Benue. Other numerous rivers forming tribulation to the farmers are showing dendritic drainage.

3.2 Research Methods

3.2.1 Research Design

The study made use of both quantitative and qualitative tools to generate data for the study. The choice of these survey techniques was to enable the collection of both qualitative and quantitative data from the housing state users in the study area.

3.2.2 Study Population

The target population for this study included housing estates occupiers and officials of housing organization involved in the design, construction and management of the housing estates

3.2.3 Sources and Types of Data Required

Datato be used in this study was collected from both primary and secondary sources. The primary data was obtained through survey of housing units in selected housing estate and interviews was conducted with selected officials of urban housing organizations involved in the design, construction and management of the selected housing estate. This was complimented with physical observation of the characteristics of the housing estates. The secondary data was obtained from published and unpublished materials in books, journals, encyclopedias, magazines, research works, conference/seminar and working papers. Other sources of data were from housing programme brochures, review of government's official documents and statistics, internet search as well as reports of urban housing activities in Nasarawa state in particular and Nigeria in general. The types of data required included information on the socio-economic characteristics of the respondents, attributes of the housing units, physical characteristics of the housing units, perception of the quality of housing as well as residents' satisfaction of the services provided by the housing units.

3.2.4 Sample Size

The sampling frame of the study consisted of completed and occupied housing units in four purposively selected housing estates developed through the private and publics urban housing agencies directly involved in the construction of the housing estates. The housing estates were selected because they were the only government and private owned estates with the highest capacity in the study area. A study by Muhammed (2008) reported that there were about 3,771housing units in the four housing estates accommodating 38,178 persons by 2006. This figure was projected to 2018 using MC Donald's Exponential Model at 3.5% annual growth rate for sample size determination.

$n= (Z^2PQ)/ D^2$

Where Z=1.96,

P = No of household by Total Population,

Q = 1-Pand

D = Level of Significance.

The projected population of each of the housing estates was used to determine the sample size using the above formula. The samples were drawn in proportion to the number of housing unit in each stratum. Analysis of data was done on the basis of the 4 strata (Table 3.1).

Table 3.1 Population/ housing estates Size by housing unit and their respective Sample Size

Housing Estates	Population (2006)	No of housing units (2006)	Population (Projected, 2018)	No of housing units (projected, 2018	Sample Size
NSUK Quarters	9,500	800	10,600	1,300	150
FMC Quarters	8,803	1,100	10,102	1,262	189
Walida Estate	8,896	1,112	10,208	1,276	23
Al-Kabir Estate	7,691	961	8,826	1,103	10
TOTAL	**38,178**	**3,771**	**43,810**	**5,462**	**517**

Source: National Population Commission (2006) and Authors Fieldwork, 2019

3.2.5 Sampling Techniques

The sampling techniques used for this study were systematic and purposive sampling techniques. The purposive sampling method was used in selecting the housing estates while systematic sampling method was adopted in selecting 8 respondents in the organizations involved in the planning and execution of the housing projects through the personnel and human resource departments of the organizations.

3.2.6 Method of Data Collection

Three principal data gathering instruments were used to generate data for this study.

1. A total of five hundred and seventeen (517) copies of questionnaire were administered to the respondents. Two sets of questionnaires were prepared; one for the residents of the housing units and the other for the staff of the urban housing estates. The questionnaires had both closed and open-ended questions.

2. Oral interview with officials from personnel and human resource departments of the housing estates was carried out. The interview schedule was designed to extract specific information on the organizational capacity as well as technical issues on the execution of the organization's housing projects.

3. Physical observation was used to supplement data on the dimensions and physical characteristics of the housing units.

3.2.7 Method of Data Analysis

Data collected from respondents rating on their level of residential perception of housing quality on a 5 points Likert Scale (very satisfactory, not satisfactory, adequate, not adequate) were subjected to both descriptive and inferential statistics. The 5 points Likert Scale (No response = 0; Very Inadequate=1; Inadequate=2; Fairly Adequate=3; Adequate =4 and Very Adequate=5) was used to rate their perception. Principal component loading analysis was further used to evaluate residential satisfaction across the housing estates. Table 3.2 present the summary of data gathering, characteristics and nature of data collected and method of data analysis.

Table 3.2: Methods used in Data Analysis

Research Objective	Characteristics of Data	Source of Data	Method of data analysis
Examine the socio-economic characteristics of residents of selected housing estates. in the study area	The data for this objective was basically quantitative in nature. This data set described the profile, personalities and attributes of residents of the housing units sampled. The data collected for the residents' characteristics included gender, age, marital status, educational attainment, employment sector, average monthly income and household size of respondents. Others were length of residency and type of tenure.	The data were derived from occupants of the housing units sampled through the questionnaire instrument.	Descriptive statistics was used in analyzing the resident' characteristics data. This involved the calculation of frequencies and percentages and the presentation of the result using tables, charts and cross tabulation.
To examine the characteristics of the different housing units in the housing estate in Lugbe district	Data for this objective were mainly qualitative in nature. The data described the general characteristics of housing units e.g. housing typology, type of building materials and finishes used, state of repair of the building; the additional space requirement by residents, the conditions of both access and internal roads, the availability of social infrastructure etc.	The data for this objective were derived from housing estate and units using the observation schedule. All the housing units sampled were observed and the recording of the observations was done according to the building typology since it is observed that houses of same type shared similar characteristics.	Qualitative analytical method, namely content analysis was used in the analysis of this set of data.
To examine residents' perception of housing quality	Data for this objective was mainly quantitative in nature. They included the housing characteristics and residents' perception of the quality of services provided by the housing estates	The data for this objective was derived mainly from the housing unit survey questionnaire.	Data obtained from respondents' rating on their level of residential perception of housing quality on a 5-point scale (very satisfactory, not satisfactory, adequate, not adequate) were subjected to both descriptive and inferential statistics.
Examine residents' perception of the satisfaction of housing in the study area	Data for this objective was mainly quantitative in nature. They included the housing characteristics and residents' satisfaction in the housing units	The data for this objective was derived mainly from the housing unit survey questionnaire.	Data obtained from respondents' rating on their level of residential satisfaction in the housing units on a 5- point scale were subjected to both descriptive and inferential statistics. Principal component loading analysis was further used to evaluate residential satisfaction across the housing estates.

Source: Authors Computation, 2019

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Socio-economic and Demographic Characteristics of the Respondents

Table 1 present the socio-economic characteristics of the respondents in terms of sex, age group, marital status, educational status, employment sector, monthly income, household size and length of residence across the housing estates.

Table4.1: Socio-economic and Demographic Characteristics of the Respondents

		Housing Estates									
Charac-teristics	Variable	FMC QRTS		NSUK QRTS		WALIDA		Al-Kabir		Total	
		F	%	F	%	F	%	F	%	F	%
Sex	Male	108	57.14	203	68.81	14	60.87	8	80.0	333	64.41
	Female	81	42.86	92	31.19	9	39.13	2	20.0	184	35.59
	Total	**189**	**100**	**295**	**100**	**23**	**100**	**10**	**100**	**517**	**100**
Age Group	No Response	3	1.59	0	0.00	0	0.00	0	0.00	3	0.58
	18-30	33	17.46	25	8.47	6	26.09	1	10.00	65	12.57
	31-45	97	51.32	184	62.37	9	39.13	3	30.00	293	56.67
	46-59	52	27.51	74	25.08	8	34.78	6	60.00	140	27.08
	60 above	4	2.12	12	4.07	0	0.00	0	0.00	16	3.09
	Total	**189**	**100**	**295**	**100**	**23**	**100**	**10**	**100**	**517**	**100**
Marital Status	No Response	4	2.12	3	1.02	0	0.00	0	0.00	7	1.35
	Single	19	10.05	17	5.76	4	17.39	0	0.00	40	7.74
	Divorced	3	1.59	1	0.34	0	0.00	0	0.00	4	0.77
	Married	160	84.65	269	91.18	18	78.26	10	100	457	88.40
	Widowed	3	1.59	5	1.70	1	1.35	0	0.00	9	1.74
	Total	**189**	**100**	**295**	**100**	**23**	**100**	**10**	**100**	**517**	**100**
Educational Status	No Response	6	3.18	2	0.68	0	0.00	0	0.00	8	1.55
	Primary	2	1.06	2	0.68	0	0.00	0	0.00	4	0.77
	Secondary	6	3.18	5	1.69	0	0.00	0	0.00	11	2.13
	Colleges/ Institutes	30	15.87	26	8.18	3	13.04	1	10.0	60	11.61
	University/Polytechnic	109	57.67	175	59.32	13	56.52	5	50.0	302	58.41
	Postgraduate	31	16.40	76	25.76	7	30.43	4	40.0	118	22.82
	Others	5	2.65	9	3.05	0	0.00	0	0.00	14	2.71
	Total	189	100	295	100	23	100	10	1000	517	100
Employment Sector	No Response	3	1.59	1	0.34	0	0.00	0	0.00	4	0.77
	Government	151	79.89	138	46.78	8	34.78	1	10.0	298	57.64
	Private	16	8.47	69	23.39	3	13.04	4	40.0	92	17.80
	Self Employed	11	5.82	74	25.09	12	52.18	5	50.0	102	19.73
	Retired	2	1.06	4	1.36	0	0.00	0	0.00	6	1.16

	Others	6	3.18	9	3.05	0	0.00	0	0.00	15	2.90
	Total	**189**	**100**	**295**	**100**	**23**	**100**	**10**	**100**	**517**	**100**
Average Monthly Income (Naira)	No Response	19	10.05	16	5.42	1	4.35	0	0.00	36	6.96
	Below ₦ 100, 000 (LI)	85	44.97	50	16.94	1	4.35	1	10.00	137	26.50
	₦ 150, 000 - ₦200,000 (MI)	68	35.98	107	36.27	9	39.13	2	20.00	186	35.98
	-₦200,000 - ₦300,000 (MHI)	11	5.82	58	19.66	8	34.78	0	0.00	77	14.89
	₦300,000 and above (HI)	6	3.18	64	21.70	4	17.39	7	70.00	81	15.67
	Total	**189**	**100**	**295**	**100**	**23**	**100**	**10**	**100**	**517**	**100**
Length of Residency	No Response	2	1.06	3	1.02	0	0.00	0	0.00	5	0.97
	Less than 1 year	23	12.17	33	11.19	19	82.61	7	70.00	82	15.86
	1year-3years	161	85.19	238	80.68	4	17.39	3	30.00	406	78.53
	4years -5 years	3	1.59	17	5.76	0	0.00	0	0.00	20	3.87
	More than 5years	0	0.00	4	1.02	0	0.00	0	0.00	4	0.77
	Total	189	100	295	100	23	100	10	100	517	100
Tenure Type	No Response	3	1.59	0	0.00	0	0.00	0	0.00	3	0.58
	Privately Rented	24	12.70	137	46.44	6	26.09	1	10.0	168	32.50
	Owner Occupied	161	85.19	135	45.76	17	73.91	9	90.0	322	62.28
	Official Quarters	1	0.53	22	7.46	0	0.00	0	0.00	23	4.45
	Free Occupation	0	0.00	1	0.34	0	0.00	0	0.00	1	0.19
	Total	**189**	**100**	**295**	**100**	**23**	**100**	**10**	**100**	**517**	**100**
Household Size	No Response	2	1.06	1	0.34	1	4.35	0	0.00	4	0.77
	2 Persons	13	6.88	24	8.14	6	6.09	0	0.00	43	8.32
	3 Persons	35	18.51	50	16.94	4	17.39	1	10.00	90	17.41
	4 Persons	60	31.74	95	32.20	7	30.43	2	20.00	164	31.72
	More than 4 persons	70	37.04	122	41.36	4	17.39	7	70.00	203	39.27
	Total	**189**	**100.0**	**295**	**100**	**23**	**100**	**10**	**100**	**517**	**100**

Source: Field Work, 2019

The highest percentage (80.0%) of male respondents were in AL-KABIR housing Estate, the least were in the Federal Medical Centre Staff Quarters (FMC QRTS). In contrast, the highest proportion (42.86%) of female respondents lived in the AL-KABIR housing estate, whilst the least (20.0%) lived in FMC staff quarters as shown in Table 1. It was revealed that 68% of the respondents in the Nasarawa State University Staff Quarters (NSUK QRTS) were male while 31.19% were female compared with male respondents in the WALIDA housing Estate (60.87) and female respondents representing 39.13 %. However, in all the housing units sampled, male respondents were more than female respondents.

The age groups of the respondents showed that those in age bracket (31-45) years constituted most of the respondents in the FMC QRTS, NSUK QRTS and WALIDA Housing Estate, however, the largest proportion (60.0%) of those within the age bracket of between 45 years and 59 years lived in the AL-KABIR housing estate (Table 1). The least proportion of younger people (18-30) years lived in the NSUK QRTS housing estate, while the highest number lived in the FMC QRTS. Whereas, no respondent of age 60years and above lived in both WALIDA housing estate and AL-KABIR housing estate, 4.07% and 2.12 % of those in this age category interviewed lived in the NSUK QRTS and FMC QRTS respectively. This result suggests that larger proportion of younger people lived in the FMC QRTS and more aged people lived in NSUK QRTS housing units.

Most of the respondents in all the Housing Estates covered by this study were married. The largest number of single persons (10.05%) (Those who had married before) and those who had divorced (1.59%) lived in the FMC QRTS. Similarly, the largest number of respondents who had lost their spouses (widowed) (1.70%) lived in NSUK QRTS housing units. Notably, all the respondents in the Al-Kabir Estate

housing units (100.00%) were married. This result showed that people of the different marital status lived in both the FMC QRTS and NSUK QRTS housing. A possible explanation for this is the fact that more people lived in the two housing estates than the WALIDA and AL-KABIR housing estates as shown in Table 1.

Majority of the respondents across the housing estates had first degree or its equivalent. However, the highest proportion (59.32%) of this group of respondents lived in NSUK QRTS housing units. This Table showed that 40.0%; 30.43%, 25.76% and 16.40% of the respondents in the AL-KABIR housing estate, WALIDA housing Estate, FMC QRTS and NSUK QRTS respectively had postgraduate qualifications, while 15.87%, 13.04%, 8.18% and 1.0% of the respondents in the FMC QRTS, WALIDA housing estates, NSUK QRTS and AL-KABIR housing estates had qualifications from Colleges and Institutes. Whereas, no respondents with primary and or secondary education lived in the WALIDA and AL-KABIR housing estates, almost same proportion of holders of primary and secondary educational qualifications lived in the FMC QRTS and NSUK QRTS housing units. Again, this may be due to the number of respondents from these housing estates involved in the survey.

The number of respondents employed in the institutional sector were more in number than self-employed and private sector employees in the FMC QRTS and NSUK QRTS, while self -employed persons (52.18% and 50.00%) were more in number in the WALIDA and AL-KABIR housing estates respectively than those employed in other sectors. This is because the FMC QRTS scheme and a good number of the NSUK QRTS housing units were targeted at civil servants as well as political appointees and their domestic staff. It can also be seen from Table 1 that 40.0%, 23.39%, 13.04% and 8.47% of respondents employed by private sector organizations

lived in the AL-KABIR housing estate, NSUK QRTS, WALIDA housing estate and FMC QRTS respectively. Notably, majority of the respondents in the AL-KABIR housing estate were not employed in the institutional sector, while the retirees encountered in this survey lived in both the NSUK QRTS and WALIDA housing estates.

It was also shown that most (85.19% and 80.68%) of the respondents in the FMC QRTS and NSUK QRTS units respectively had lived in the housing units for between 1year and 3 years. In contrast, most (82.61% and 70.0%) of the respondents in the WALIDA and AL-KABIR housing estates respectively had lived less than one year in the housing units. This provides support to the fact that the housing units in these two housing estates were recently constructed. It can be seen from the Table 1 that the largest number of respondents who had lived more than 4 years lived in the NSUK QRTS. The knowledge of length of residency of the respondents is vital in interpreting respondents' perception on housing adequacy and residential satisfaction. Generally, the above result suggests that a good proportion of the respondents had lived in the housing estate in a reasonable period to provide reliable information on their perception on their residential environment.

The result of analysis on the household sizes of respondents shows that a good proportion (37.04% and 41.36%) of the respondents in the FMC QRTS and NSUK QRTS provided housing units had more than 4 persons per household. However, most (70.0%) of the respondents in the AL-KABIR housing estate had household sizes of more than 4 persons. Examination of Table 1showed that the number of respondents with household size of 3 persons lived in the NSUK QRTS housing estate, while the majority of those with household size of 2 persons lived in the FMC QRTS. This result showed that apart from the AL-KABIR housing estate where no respondent

indicated household size of 1 or 2 persons, families with household sizes of between 1 and more than 4 persons lived in institutional housing developed through the FMC QRTS and NSUK QRTS strategies in the study area.

Most of the respondents across the housing estates were within the age group of between 31 and 45 years; this is contrary to what is obtained in the Al-Kabir housing units where most respondents were in the age bracket of between 46 and 59 years. Although, the result indicates that most residents in the FMC QRTS, NSUK QRTS and WALIDA housing units had household size of four persons, those living in the Al-Kabir housing units had the largest household size of more than four persons. This is well expected, given that a majority of those sampled were married and in their productive years.

On the level of educational attainment of the respondents, the result shows that whereas the FMC QRTS and NSUK QRTS housing units in addition to providing samples consisting of people with various levels of educational attainment from primary to postgraduate and professional qualifications, the WALIDA and AL-KABIR housing estates had no respondents with the primary and secondary school as their highest educational attainment. This tends to suggest that these two housing delivery strategies provided housing mainly for the highly educated people. Similarly, evidence from this result showed that the highest proportion of low and high income earners lived in the FMCQRTS and AL-KABIR housing units respectively; the highest proportion of the middle –low and middle high income groups lived in the WALIDA housing units, and respondents in the NSUK QRTS provided housing units consisted mainly of the middle low income earners. This finding tends to correlate with the distribution of residents in the housing units according to level of highest educational attainment.

This result clearly shows that the AL-KABIR housing strategy specifically serviced the needs of the low-income people, and the FMC QRTS strategy for the high-income class, the NSUK QRTS for all income groups while the WALIDA housing estate strategy served the housing need of the middle and high-income earners. With respect to tenure, in the different housing estate, it is evident from the result that in addition to rented and owner-occupied identified as the two basic tenure types in both WALIDA and AL-KABIR housing estates, other tenure options such as official quarters and free occupation were identified in the FMC QRTS housing and NSUK QRTS quarters.

4.2 Physical Characteristics of the Houses Units

4.2.1. Overall Housing Unit Attributes

Several architectural and non-architectural attributes are used to describe the dwelling (housing) units and immediate residential environment.

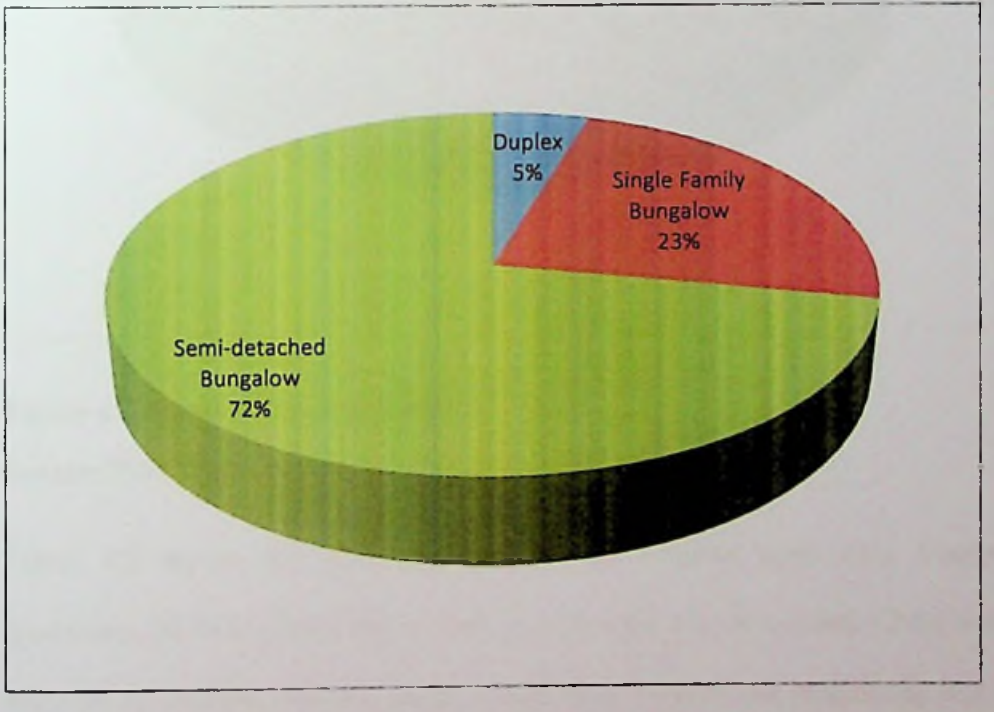


Figure 4.1: Housing Typology

Source: Field Work, 2019

Of the total of 517 respondents sampled, 57.06% were provided through the NSUK QRTS strategy, 36.56% were provided through the FMC QRTS Housing, 4.45% was provided through the WALIDA housing and 1.93% was provided through the AL-KABIR housing delivery strategies. About 51.45% of the housing units were single family bungalows and 46.03% semi-detached bungalows. Only 4.40 % of the housing units were duplexes and are in the NSUK QRTS.

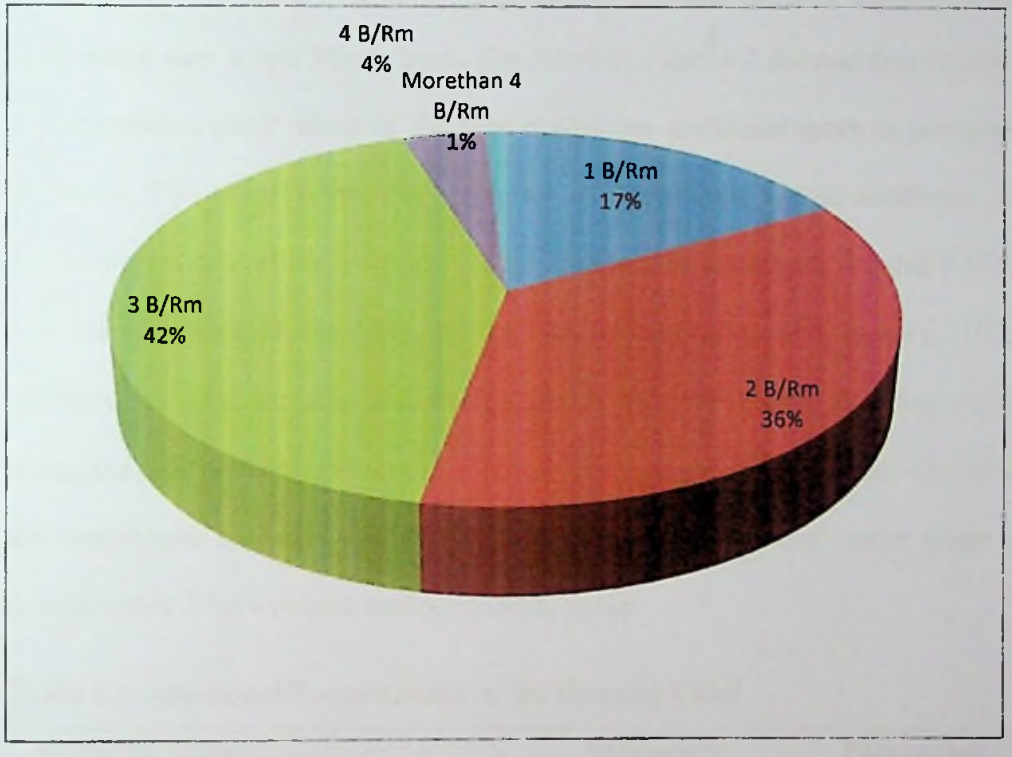


Figure 4.2: Sizes of Dwelling Units

Source: Field Work, 2019

Figure 4.2 shows that many (42.40%) of the housing units were 3-bedroom apartments, 35.59% were 2 bed rooms; 17.02% were 1-bedroom and 4.26% were 4-bedroom apartments. Housing units of more than 4-bedrooms contributed less than 1.0% to the sample. The result shows that across the four housing delivery strategies, the mean occupancy ratio of houses sampled was 0.6415. This suggests that less than one person occupied a room on the average, and therefore, the housing units and by

extension the housing estates were not over crowded. The above implies that the institutional housing programme in the study area provided mainly low-density residential housing estate of 2 and 3- bedroom bungalows. This agrees with the finding of Adrianne (2007) that most government provided housing are mostly of low density.

4.2.2 Additional Requirements in the Housing Units

As part of the measures to assess the overall physical attributes of the housing units, respondents were asked to indicate space(s) not provided in their current dwelling units which they would like to have. The result in Table 4.2 showed that 11.80% of the respondents either indicated that they needed any additional space or provided no responses. This suggests that this proportion of respondents had no additional space requirement and/or where undecided. It can also be seen from table 4.2 that 9.67% of respondents indicated that they would like to have shop and laundry, 10.25% indicated the need for shop and storage spaces, 10.05% wanted shop and visitors' toilet, and 9.09% indicated that they needed shop and guest room. Also, 42.230% of the respondents indicated that they wanted guest room, visitors' water closet and laundry while 2.90% wanted outdoor cooking space.

Table 4.2: Additional Requirements in the Housing Units

Required Spaces	Frequency	Percentage
No additional requirement	61	11.80
Shop and Laundry	50	9.67
Shop and Storage spaces only	53	10.25
Shop and Visitors toilet	52	10.05
Shop and Guest Room	47	9.09
Outdoor Cooking area	15	2.90
Guest Room, Visitors WC and Laundry	239	42.23

Source: Field Work, 2019

Table 4.2 also showed that many of the respondents needed additional spaces within their housing units that were not originally provided in their current dwelling units. This suggests that these spaces were not provided. However, it may also be that some of these spaces were provided, but due to growing family need and change of status of residents, the spaces were no longer adequate in meeting current needs. This argument is based on available evidence showing that most of the respondents who indicated that they needed additional spaces were in need of bedrooms, toilet facilities and shops.

4.2.3 Housing Unit Attributes

Table 4.3: Housing Typology

Residence Type	Housing Delivery Strategies								Total	
	FMC QRTS		NSUK QRT		WALIDA		AL-KABIRH			
	F	%	F	%	F	%	F	%	F	%
Single family Bungalow	46	24.34	196	66.44	14	60.87	10	100	**266**	**51.45**
Semi-Detached Bungalow	143	75.66	86	29.15	9	39.13	0	0.00	**238**	**46.04**
Duplex	0	0.00	13	4.40	0	0.00	0	0.00		
Total	**189**	**100.00**	**295**	**100.00**	**23**	**100.00**	**10**	**100.00**	**13** **517**	**2.51** **100.00**

Source: Field Work, 2019

Majority (75.66%) of the housing units provided through the FMC QRTS housing strategy were semi-detached bungalows, while 66%, 60.87% and 100% of the housing units provided through the NSUK QRTS, WALIDA and AL-KABIR housing strategies respectively were detached single family bungalows. A small fraction (4.40%) of single-family duplexes was provided through the NSUK QRTS strategy. This result shows that majority of houses provided through institutional housing was

detached bungalows. Similarly, the distribution of the sizes of the housing units according to the delivery strategies (Table 3) showed that majority (44.97%) of the 1-bedroom housing units were provided in the FMC QRTS housing strategy. This is not surprising because the scheme was designed to provide one bed room housing units which can be increased to 3-bedroom by the occupants.

Table 4.4: Sizes of Housing Units

Size of Residence	Housing Delivery Strategies								Total	
	FMC		NSUK		WALIDA		AL-KABIRH			
	F	%	F	%	F	%	F	%	F	%
1 Bedroom	85	44.97	1	0.34	1	4.35	1	10.0	88	17.02
2 Bedrooms	36	19.05	136	46.10	12	52.17	0	0.00	184	35.59
3 Bedrooms	66	34.90	134	45.4	10	43.5	9	90.0	219	42.40
4 Bed rooms	1	0.53	21	7.11	0	0.00	0	0.00	22	4.26
More Than 4Bedrooms	1	0.53	3	1.02	0	0.00	0	0.00	4	0.77
Total	189	100.00	295	100.00	23	100.00	10	100.00	517	100.00

Source: Field Work, 2019

Result on Table 4.4 shows that about 52.17% and 46.10% of the 2-bedroom units were provided through the WALIDA housing strategy and NSUK QRTS strategies respectively, 90% of the units provide in the AL-KABIR housing strategy were 3-bedroom, 7.11% of the 4-bed room units were provided through the NSUK QRTS units, while very few number of housing units of over 4-bedroom units were provided in the NSUK QRTS delivery strategy. It is evident from this result that a good proportion (42.40%) of all the housing units provided were 3-bedroom units, 35.59% were 2-bedrooms, 17.02% were 1-bedroom and 4.26% were 4-bedroom units. One important observation from this result is that of the 189 FMC QRTS housing units sampled, 36 units representing 19.05% had been transformed to 2-beroom units,

while 66 units (34.90%) have been transformed from 1-bed room to 3-bedroom units within a period of two years.

Table 4.5: Modes of Acquisition of Housing Units

Mode of Housing Acquisition	Housing Delivery Strategies				Total
	FMC QRTS	NSUK QRTS	WALIDA	AL-KABIR	
No Response	26(13.75)	148(50.17)	6(26.09)	1(10)	181(35.01)
Bought directly from the developers	1(0.53)	64(21.69)	15(65.22)	8(80.0)	88(17.02)
Bought from previous owner(s)	0(0.00)	12(4.07)	0(0.00)	0(0.00)	12(2.32)
Government allocation	3(1.59)	30(10.17)	0(0.00)	1(10.0)	34(6.58)
Mortgage Arrangement	159(84.13)	24(8.14)	2(8.7)	0(0.00)	185(35.78)
Gift	0(0.00)	1(0.34)	0(0.00)	0(0.00)	1(0.19)
Inherited	0(0.00)	16(5.42)	0(0.00)	0(0.00)	16(3.09)
Total	189(100.00)	295(100.00)	23(100.00)	10(100.00)	517(100.00)

Note: Figures inside the bracket represent percentage while the one outside represents frequency of responses

Source: Field Work, 2019

On the mode of acquisition of the housing units, the result shows that there was high non response rate on the mode of acquisition of the housing units, probably because the question was not well understood by some respondents. However, the result (Table 5) showed that 35.78% of all the housing units were acquired through mortgage, 17.02% were through outright purchasing from the developers, while the remaining percentage were through government allocation, outright purchasing from previous owners, and inheritance. In the FMC QRTS, majority (84.13%) of the respondents indicated that the houses were acquired through mortgage arrangement, whereas 21.69%, 65.22% and 80.0% of those in the NSUK QRTS, WALIDA and

AL-KABIR provided houses respectively claimed that they bought the houses directly from the developers.

Table 4.6: Evaluation of Housing Acquisition Process

	Housing Delivery Strategies				
Acquisition Process	FMC QRTS	NSUK QRTS	WISDOM	AL-KABIR	Total
No Response	34(17.99)	10(3.39)	0(0.00)	0(0.00)	44(8.51)
Very Stringent	11(5.82)	9(3.05)	0(0.00)	0(0.00)	20(3.87)
Stringent	40(21.16)	105(35.59)	8(34.78)	4(40.0)	157(30.37)
Less Stringent	66(34.92)	125(42.37)	11(47.82)	4(40.0)	206(39.85)
Not Stringent	38(20.11)	46(15.39)	4(17.39)	2(20.0)	90(17.41)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Note: Figures inside the bracket represent percentage while the one outside represents frequency of responses

Source: Field Work, 2019

With regards to the perception of the respondents on the process of acquiring the housing units, Table 4.6 showed that 17.41% of respondents claimed that housing acquisition process was not stringent, 39.85% claimed it was less stringent, 30.37% felt it was stringent while very small fraction (3.87%) perceived the process as stringent. A closer examination of the result reveals that the highest proportion of respondents who claimed that the process was stringent were in AL-KABIR provided housing, while the least number of respondents who said the process was stringent were in the FMC QRTS. Also, more respondents in the FMC QRTS than any other respondents claimed that the process was not stringent to them. This is understandable because housing acquisition in the strategy was through outright purchasing, while for the FMC QRTS housing strategy, most of the residents acquired their housing units through mortgage arrangement which provided less financial burden on the home buyers by spreading the payment over reasonable number of years. It is however

natural to think that those who indicated that the process of acquiring the dwellings units in the FMC QRTS housing was stringent may have been tenants and/ or workers who did not have the initial deposit of 10% of the cost of the houses, otherwise the process and conditions may as well be considered as convenient, as majority of the respondents in the NSUK QRTS housing had indicated.

Table 4.7: Evaluation of Cost of Housing

	Housing Delivery Strategies				
Cost of Housing	FMC	NSUK	WALIDA	AL-ABIR	TOTAL
No Response	2(1.06)	2(0.68)	0(0.00)	0(0.00)	4(0.78)
Highly Unaffordable	1(0.53)	5(1.70)	0(0.00)	0(0.00)	6(1.16)
Unaffordable	12(6.35)	20(6.78)	3(13.04)	0(0.00)	35(6.77)
Affordable	160(84.65)	267(90.51)	20(86.96)	10(100.0)	457(88.39)
Highly affordable	14(7.41)	1(0.34)	0(0.00)	0(0.00)	15(2.90)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Note: Figures inside the bracket represent percentage while the one outside represents frequency of responses

Source: Field Work, 2019

Similarly, respondents were asked to evaluate the cost of the housing units in relation to their income. The result of the analysis in Table 8 showed that a majority (88.39%) of the respondents across all the housing delivery strategies indicated that the cost of acquiring and /or renting the housing units was affordable to them. Surprisingly, all the respondents (90.51%) in the Federal Housing provided housing claimed that the housing units were affordable. A possible explanation for this is that majority of the occupants in this housing estate may be high income earners. Also, it can be seen from the result that 7.41% of respondents in the FMC QRTS housing claimed that the housing unit was highly affordable to them. This might be due to the mortgage arrangement used in the acquisition of the houses which required initial deposit of 10% of the total cost of housing and the balance repaid through flexible payment

options spreads over a period between 15 years and 20 years. On the state of repairs of the housing units, it was found that most (93.04%) of the housing units sampled were structurally sound. Specifically, all the housing units sampled in the WALIDA and AL-KABIR provided houses were in sound condition externally. However, 11.53% and 1.06% of houses provided through the NSUK QRTS and FMC QRTS housing strategies respectively required minor repairs. The above can be explained within the context that the housing units were relatively new and most of them were less than fifteen years old.

In the use of materials, it was observed that across the four housing delivery strategies, most of the houses were constructed with conventional building materials. Majority (96.32%) of the houses were constructed with Sandcrete cement blocks, while a small fraction (3.68%) especially in the NSUK QRTS housing units were built with burnt bricks. Also, most (97.10%) of the houses were roofed with aluminum long span roofing sheets, however 5.09% of NSUK QRTS provide houses sampled were roofed with aluminum villa tiles. All the houses sampled in the FMC QRTS, WALIDA and AL-KABIR provided houses had glazed aluminum windows, while 34.23% of the NSUK QRTS provided houses had glazed louvered windows.

Similarly, 58.09% of the houses sampled had paneled steel external doors, 40.04% had paneled timber, and the remaining percentage had glazed aluminum and flushed timber external doors. Specifically, the highest number of houses with paneled steel external doors was in the AL-KABIR provided houses, while the least were in the FMC QRTS housing. Also, houses provided through the FMC QRTS housing and NSUK QRTS strategies had more steel than timber external doors. In the same vein, 92.84% of the houses were of asbestos ceiling, while the remaining percentage were of mineral fiber, acoustic ceiling and PVC strips. With regards to perimeter fencing,

53.0% of the housing units sampled had no perimeter fencing, 42.94% had perimeter fencing in sound condition while the perimeter fencing for the FMC QRTS housing units required minor repairs.

4.3 Perception of Housing Adequacy

4.3.1 Overall Housing

Table 4.8: Overall Housing Adequacy

Adequacy Scores	Rating	Frequency	Percentage
56-74	Very Inadequate	31	6.00
75-93	Inadequate	272	52.61
94-112	Fair	158	30.56
113-131	Adequate	47	9.09
132-150	Very Adequate	9	1.74
Total		**517**	**100.00**

Source: Field Work, 2019

It is evident from Table 4.8 that around 52.61% of the respondents rated the housing as inadequate, 30.56% claimed it was fair, 9.09% felt that their housing was adequate, 1.74% indicated that it was very adequate, while 6.0% perceived it as very inadequate. This result clearly shows that a majority of the residents' perceived housing provided in the study area as inadequate.

4.3.2 Adequacy of Housing Sub-Components

(i) Adequacy of Housing Unit Attributes

Table 4.9: Overall Adequacy of Housing Unit Attributes

Adequacy Scores	Rating	Frequency	Percentage
30-39	Very Inadequate	13	2.51
40-49	Inadequate	133	25.73
50-59	Fair	261	50.48
60-69	Adequate	98	18.96
70-79	Very Adequate	12	2.32
Total		**517**	**100.00**

Source: Field Work, 2019

On the level of adequacy of the key four housing sub-components used in the study to assess housing adequacy, the result in Table 4.9 reveals that about one half (50.48%) of the respondents claimed that the level of adequacy of Housing Unit Attributes was fair, 18.96% felt Housing Unit Attributes were adequate and 2.32% indicated that they were very adequate. However, 25.73% and 2.51% claimed that the Housing Unit Attributes were inadequate and very inadequate respectively. The above result is affirmed by the responses on the level of adequacy of each of the 16 Housing Unit Attributes . The result on Table 4.9 indicates that the Level of Privacy, one of the Housing Unit Attributes contributed most while the availability of Fire Protection Measures contributed least to the overall level of adequacy of Housing Unit Attributes.

Examining the Attribute Score column on Table 4.9 arranged in descending order, it can be seen that most of the respondents indicated that the Sizes of Spaces, Natural Ventilation and Lighting as well as Level of Privacy and Thermal Comfort were

adequate in their housing units. Also, Protection against Dampness, Noise and Harmful Insects and Animals were perceived as adequate. Although, a reasonable proportion of the respondents indicated that the Number of Bedrooms and Fire Protection Measures were generally inadequate in their housing units, the percentage of those who felt that the Number of Bedrooms and Fire Protection Measures in their housing were fair and very adequate put together was greater than those who indicated that these attributes were inadequate. The possible explanation for this result on inadequacy of bedrooms is found within the context of the fact that most of the respondents indicated a number of additional spaces, including guest bedrooms that were not available in their current apartments.

(ii) Adequacy of Housing Services and Infrastructure

Table 4.10: Overall Adequacies of Housing Services and Infrastructure

Adequacy Scores	Rating	Frequency	Percentage
6-10	Very Inadequate	57	11.03
11-15	Inadequate	266	51.45
16-20	Fair	145	28.05
21-25	Adequate	44	8.50
26-30	Very Adequate	5	0.97
Total		**517**	**100.00**

Source: Field Work, 2019

Regarding the level of adequacy of Housing Services and Infrastructure, the result of the analysis in Table 4.10 revealed that around 51.45% and 11.030% of the respondents perceived Housing Services and Infrastructure as in-adequate and very inadequate respectively. However, 8.50% and 0.97% of the respondents were of the view that the level of adequacy of Housing Services and Infrastructure were adequate

and very adequate respectively. Also, around 28.05% of respondents perceived the level of adequacy of Housing Services and Infrastructure as fair. This result clearly shows that majority of the respondents perceived Housing Services and Infrastructure as inadequate.

On the contribution of Housing Services and Infrastructure attributes to the overall level of adequacy of Housing Services and Infrastructure, it is obvious from Table 10 that most residents found the provision of Sanitary and Drainage Facilities adequate in their houses.

Similarly, majority of the housing units depended on institutional power supply for their electricity need and going by the epileptic power supply situation in Nigeria, the power source from the National Grid may not have provided adequate electricity to the residents. In the same vein, since most of the residents were found to depend on borehole and wells for their domestic water supply, one may infer that portable water supply in institutional housing estates sampled may not have been adequate. All these might have contributed to the respondents' perception of the level of adequacy of Housing Services and Infrastructure in the housing estates.

(iii) *Adequacy of Neighborhood Facilities*

Table 4.11: Adequacy of Neighborhood Facilities

Adequacy Scores	Rating	Frequency	Percentage
9-14	Very Inadequate	129	24.95
15-20	Inadequate	218	42.17
21-26	Fair	125	24.18
27-32	Adequate	37	7.16
33-38	Very Adequate	8	1.55
Total		**517**	**100**

Source: Field Work, 2019

This claim is affirmed by the result on Table 4.11 which showed that whereas 42.17 % and 24.95% of the respondents perceived the provision of Neighborhood Facilities as inadequate and very inadequate respectively, 7.16%, and 1.55% felt that the level of adequacy of Neighborhood Facilities was adequate and very adequate respectively, while 24.18% indicated that the level of adequacy of neighborhood facilities was fair.

Specifically, the result (Table 4.11) showed that of the 9 Neighborhood Facilities, the availability of Institutional Transport Services in the estates contributed most while the provision of Recreational/ Sporting Facilities contributed least to the level of adequacy of neighborhood facilities in the estates. This result is well expected going by the observation that all the estates surveyed are located along major roads easily accessible from different parts of the town by commercial vehicles and motorbikes. This result is a reflection of Table 9 which indicated that in most of the estates sampled, recreational, shopping, educational and healthcare facilities were virtually lacking in the housing estates sampled.

(i)Adequacy of Management of Facilities in the Housing Estates

Table 4.12: Adequacy of Management of Facilities

Adequacy Scores	Rating	Frequency	Percentage
2-3	Very Inadequate	77	14.9
4-5	Inadequate	262	50.7
6-7	Fair	134	25.9
8-9	Adequate	36	7.0
10-11	Very Adequate	8	1.5
Total		**517**	**100.00**

Source: Field Work, 2019

This claim is affirmed by the result on Table 4.11 which showed that whereas 42.17 % and 24.95% of the respondents perceived the provision of Neighborhood Facilities as inadequate and very inadequate respectively, 7.16%, and 1.55% felt that the level of adequacy of Neighborhood Facilities was adequate and very adequate respectively, while 24.18% indicated that the level of adequacy of neighborhood facilities was fair.

Specifically, the result (Table 4.11) showed that of the 9 Neighborhood Facilities, the availability of Institutional Transport Services in the estates contributed most while the provision of Recreational/ Sporting Facilities contributed least to the level of adequacy of neighborhood facilities in the estates. This result is well expected going by the observation that all the estates surveyed are located along major roads easily accessible from different parts of the town by commercial vehicles and motorbikes. This result is a reflection of Table 9 which indicated that in most of the estates sampled, recreational, shopping, educational and healthcare facilities were virtually lacking in the housing estates sampled.

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Adequacy Scores	Rating	Frequency	Percentage
2-3	Very Inadequate	77	14.9
4-5	Inadequate	262	50.7
6-7	Fair	134	25.9
8-9	Adequate	36	7.0
10-11	Very Adequate	8	1.5
Total		**517**	**100.00**

Source: Field Work, 2019

The result on Table 4.12 indicates that majority (50.7%) of the respondents claimed that the level of management and maintenance of existing facilities in the estates was inadequate while very small fractions (7.0% and 1.5%) indicated that it was adequate and very adequate respectively. However, 25.9% of the respondents felt that management and maintenance of facilities in the housing estates were fair.

Again, from Table 4.12 it can be seen that of the two attributes used in assessing the level of adequacy of management of facilities in the estate, Communal Activities contributed more than level of Management and Maintenance of Facilities in the Estates to the overall level of adequacy management of estate facilities. This can be explained within the context of the existence of Community Development Associations (CDAs) in a number of the estates sampled. The study found that in some of the estates, the CDAs were encouraging communal activities such as the provision security services and maintenance of existing common facilities in the estates, whereas in some estates CDAs were non-existent. Consequently, the responsibility of maintaining existing facilities was left to housing providers and individual residents. The result presented in this section shows that although a good majority of the respondents perceived the housing package as inadequate, most of them felt that the level of adequacy of Housing Unit Attributes was fair. Similarly, a sizeable percentage of the respondents indicated the level of adequacy of Housing Services and Infrastructure, Neighborhood Facilities and Management of estate facilities was also fair. This suggests that majority of the respondents and sizeable number of them perceived the level of adequacy of Housing Unit Attributes and other housing attributes as manageable. Specifically, the provision of Neighborhood facilities in the housing estates was lowly rated in the adequacy scale. This is because earlier findings in objective two indicated that basic social infrastructure (schools,

health centers, recreational facilities, children's playground and shopping facilities) were virtually absent in most of the estates sampled. This result suggests that institutional housing providers in the study area appeared to have relegated the provision of utilities and social infrastructure and maintenance of such facilities where they existed in institutional housing estates to the background. This implies that institutional housing providers in the study area paid more attention to architectural design and construction of housing units, and thus Housing Unit Attributes were key sources of housing adequacy in institutional housing.

4.3.3 Housing Adequacy across the Housing Delivery Strategies

This section examines the level of adequacy of housing provided across the four housing delivery strategies. Emphasis is on the result of analysis on the level of adequacy of housing provided through the FMC QRTS, NSUK QRTS, WALIDA and AL-KABIR housing delivery strategies. This is with a view to highlighting the differences in housing adequacy and identifying what attributes contributed the most or least to overall housing adequacy across the delivery strategies.

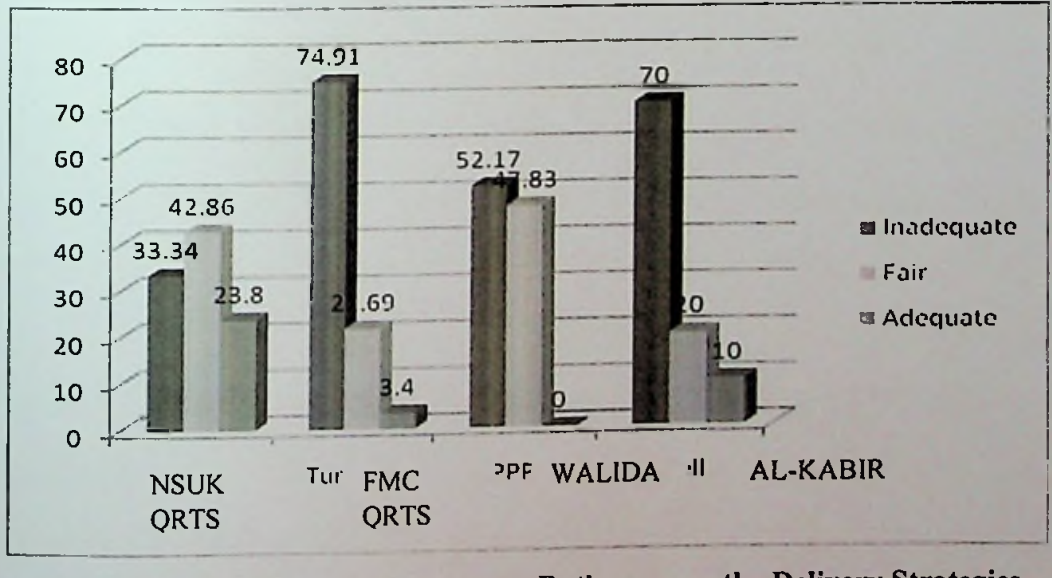


Figure 4.3: Individual Housing Adequacy Rating across the Delivery Strategies
Source: Field Work, 2019

Figure 4.4 showed result of the analysis of overall perception of housing adequacy across the four housing delivery strategies. Examination of the result shows that 33.34%, 42.86% and 23.80% of the respondents in the FMC QRTS indicated that the adequacy level of housing in the estate was inadequate, fair and adequate respectively, while74.91%, 21.69% and 3.4% of those in the NSUK QRTS perceived their housing as inadequate, fair and adequate respectively. Similarly, 52.17% and 47.83% of the respondents in the WALIDA housing estate felt that their housing was inadequate and fair respectively and 70%, 20% and 10% of those who lived in the public housing estates perceived their housing as inadequate, fair and adequate respectively. It is evident from this result that almost half of the respondents in the FMC QRTS and WALIDA housing estate found the housing provided as fair, whereas majority of the respondents in the NSUK QRTS, WALIDA and AL-KABIR estates perceived their housing as inadequate. It is also obvious that the highest proportion of respondents who perceived their housing as adequate lived in the FMC QRTS, while the highest proportion of respondents who found their housing to be fair lived in the WALIDA housing.

Table 4.13: Regression Coefficients of Predictors of Overall Housing Adequacy

Socio-economic and demographic characteristics of the respondents	Standardized Coefficients		df	F	Sig.
	Beta	Std. Error	Beta	Std. Error	Beta
Respondent's Sex	.034	.036	1	.912	.340
Age Group in Years	-.155	.037	4	17.697	.000*
Marital Status of Respondent	.090	.036	4	6.140	.000*
Level of Education of Respondents	-.086	.035	6	6.017	.000*
Employment Sector	.068	.034	5	3.933	.002*
Personal Average Monthly Income Group in Naira	-.138	.042	3	10.890	.000*
Number of Persons Living in the Residence	-.048	.036	1	1.850	.174
Length of Residency in the Housing Estate	-.047	.035	2	1.738	.177
Tenure	.134	.040	4	11.246	.000*
Residence Type	.088	.044	2	4.074	.018**
Additional Space Requirement in the Housing Units	-.351	.037	11	90.586	.000*
State of Repairs of Residence	.051	.036	1	1.957	.162
Organizational Capacity	.144	.037	3	15.141	.000*
Housing Delivery Strategies	-.456	.042	3	118.301	.000*

*Statistically significant at P<0.0005, ** Significant at P<0.005

Source: Field Work, 2019

The result showed that much of the variance in the dependent variable is explained by the regression model with Multiple R = 0.682, Adjusted R Square = 0.407 and the R Square value of 0. 465.This implies that the regression model used explains about (0.465x100) 46.5% of the variance in housing adequacy. The result (F=8.090, P=0.000) also implies that the result is statistically significant at P<0.0005.

Table 4.13 showed the level of contributions of each predictor in explaining the dependent variable. It can be seen from this result that of the 14 independent variables included in this regression model, 10 were significant predictors of housing adequacy. The variables in order of importance are Housing Delivery Strategies (Beta=0.456; F-118.301, P=0.000). This suggests that Housing Delivery Strategy is the strongest predictor of housing adequacy, and thus a key contributor to explaining housing adequacy in this survey. Next to it are Additional Space Requirement in the Housing

Units (Beta = 0.351, F=90.586; P value=0.000); Age (Beta= -0.155, F = 17.697, P= 0.000), Organizational Capacity (Beta=0.144, F=15.141, P=0.000), Income (Beta=0.138, F=10.890, P=0.000) and Tenure (Beta=0.134, F=11.246, P=0.000). Others are Education (Beta=-0.086, F=6.017, P=0.002), Marital Status (Beta=0.09, F=6.140, P=0.000, and Employment Sector (Beta=0.068, F=3.933, P=0.002) as well as Residence Type (Beta=0.088,F=4.074, P=0.018. Attributes such as Sex (Beta =0.034, F=0.912, P=0.34), Number of Persons Living in the Residence (Beta=-0.048, F=1.850, P=0.174) Length of Residency (Beta =-0.047, F=1.738, P=0.177) and State of Repairs of Residence (Beta =0.051, F=1.957, P=0.162) do not make significant contribution to the prediction of overall housing adequacy. Although one may attribute the above result partly to overlap of some of the independent variables in the model, it is however obvious that the result provides support to earlier finding in Section 4.3.3 suggesting that differences in perception of housing adequacy in the survey was not due to the sex of respondent, household size and how long respondents have lived in the residence. In contrast, the result is inconsistent with earlier notion also in Section 4.3.4.1 indicating that differences in perception of housing adequacy is not on account of differences in the employment sector of respondents. Generally, the result showed that socio-economic attributes of occupants of housing have significant influence on their perception of housing adequacy.

4.4 Residents Satisfaction with Housing Services

The presentation and discussion of result of analysis of residential satisfaction in this study involve the presentation of residents' rating on their overall satisfaction with housing as regards sub-components of the housing environment. These sub-components are Housing Unit Attributes, Housing Services and Infrastructure, Neighborhood Facilities; Socio-economic, environment and management of facilities

in the housing estates. Next to this is the presentation of housing satisfaction across the four housing delivery strategies, assessment of the levels of contribution of various housing attributes to residential satisfaction, and lastly identification of factors influencing overall housing satisfaction in all the housing estates sampled.

Table 4.14: Overall Residential Satisfaction in all the Housing Estates

Individual Satisfaction Scores	Rating	Frequency	Percentage
--53.0-71.0	Very Dissatisfied	28	5.42
72.0-90.0	Dissatisfied	251	48.55
91.0-109.0	Fair	191	36.94
110.0-128.0	Satisfied	42	8.12
129.0-148.0	Very Satisfied	5	0.97
Total		**517**	**100.00**

Source: Field Work, 2019

Table 4.14 shows result of analysis on residential satisfaction with the all housing estates constructed in the public housing in the study area. Close examination of Table 14 reveals that 48.55% of respondents were dissatisfied and 5.42% were very dissatisfied with the housing. Also 8.12% of the respondents were satisfied and 0.97% of the respondents were very satisfied, but 36.94% said they were neither satisfied nor dissatisfied. This result also shows that majority (53.97%) of the respondents were dissatisfied while small fraction (9.09%) of the respondents were satisfied with housing in all the estates. This result clearly shows that majority of the respondents were dissatisfied with the housing environment provided in the public housing in the study area. The possible explanation for this result is found in Table 16 which indicated that majority of the respondents found public housing as inadequate. This may have influenced their perception of the level of satisfaction with their residential environment.

Since some of the respondents indicated that they were satisfied while a reasonable percentage claimed that they were neither satisfied nor dissatisfied with the housing environment, this may be considered to be partly contradictory to the finding in Ukoha and Beamish (1997) which indicated that residents of public housing in Abuja were completely dissatisfied with their overall housing situation. Also, residents in public housing in Papua, New Guinea were also dissatisfied with the total housing provided (Kaitilla (1993). The implication of the above result is that residents in all the public housing estates surveyed were most satisfied with the architectural characteristics of the housing units and least satisfied with the location of neighborhood facilities within and around the housing estates.

4.4.1 Satisfaction with Housing sub-Components

The level of satisfaction with the housing sub-components was also examined. This was done in order to identify how the respondents perceived the levels of satisfaction with Housing Unit Attributes, Housing Services, location of facilities within the neighborhood, Socio-economic Environment of the housing estates and Management of the housing estates. It was also important in identifying which attributes contributed most and least to overall residential satisfaction, for policy action as the case may be.

(i) Satisfaction with Housing Unit Attributes

Table 4.15: Satisfaction with Housing Unit Attributes

Individual Satisfaction Scores	Rating	Frequency	Percentage
18.0-26.0	Very Dissatisfied	8	1.55
27.0.-34.0	Dissatisfied	74	14.31
35.0-43.0	Fair	260	50.29
44.0.-51.0	Satisfied	153	29.59
52.0-60.0	Very Satisfied	22	4.26
Total		**517**	**100.00**

Source: Field Work, 2019

The result on Table 4.15 shows that most (50.29%) of the respondents indicated that they were neither satisfied nor dissatisfied with the Housing Unit Attributes, 29.59% expressed satisfied with the Housing Unit Attributes and 4.26% were very satisfied with the dwelling unit attributes. However, 14.31% and 1.55% of the respondents were dissatisfied and very dissatisfied respectively with the Housing Unit Attributes. This result implies that 15.86% of the respondents expressed dissatisfaction with the Housing Unit Attributes while 33.85% were satisfied. Therefore, more respondents were satisfied than those who were dissatisfied with the Housing Unit Attributes. This result is similar to respondents' perception of the level of adequacy of Housing Unit Attributes (see Table 4.14) which indicated that majority of the respondents felt that the Housing Unit Attributes were fair. However, the proportion of respondents who expressed satisfaction with Housing Unit Attributes was more than that who perceived that Housing Unit Attributes were adequate.

(ii) Satisfaction with Housing Services

Table 4.16: Satisfaction with Housing Services

Individual Satisfaction Scores	Rating	Frequency	Percentage
2.0-3.0	Very Dissatisfied	59	11.41
4.0-5.0	Dissatisfied	294	56.87
6.0-7.0	Fair	72	13.93
8.0-9.0	Satisfied	85	16.44
10-11	Very Satisfied	7	1.35
Total		**517**	**100.00**

Source: Field Work, 2019.

Two housing service attributes: Water Supply and Sanitary Services and Electrical Services were used in the assessment of respondents' satisfaction with Housing Services. Contrary to the result obtained in satisfaction with Housing Unit Attributes, Table 18 shows that most (56.87% and 11.41%) of the respondents were dissatisfied and very dissatisfied respectively, while 16.44% and 1.35% respectively were

satisfied and very satisfied with Housing Services. This result is indicative that those who were dissatisfied were more than those were actually satisfied with housing services.

Table 4.17: Satisfaction with location of Neighborhood Facilities

Individual Satisfaction Scores	Rating	Frequency	Percentage
5.0-9.0	Very Dissatisfied	124	23.98
10.0-14.0	Dissatisfied	232	44.87
15.0-19.0	Fair	121	23.40
20.0-24.0	Satisfied	37	7.16
25.0-30.0	Very Satisfied	3	0.58
Total		**517**	**100.00**

Source: Field Work, 2019.

Respondents' satisfaction with the location and access to 6 neighborhood facilities was also examined. The facilities investigated were Urban Services and Infrastructure, Children's School, Market, Recreational/Sporting Facilities, Shopping and Healthcare Facilities. The result (Table 4.17) shows that around 44.87% and 23.98% of the respondents claimed they were dissatisfied and very dissatisfied with the location of these facilities respectively, while 7.16% and 0.58% indicated that they were satisfied and very satisfied respectively with the location of neighborhood facilities. However, 23.40% of the respondents felt they were neither satisfied nor dissatisfied with the location of these six neighborhood facilities. This result shows that majority (68.85%) of the respondents were dissatisfied with the location of neighborhood facilities. A possible explanation for the above result is that most of the housing estates sampled lacked social infrastructure such as educational, shopping and healthcare facilities etc.

(iv)Satisfaction with Socio-Economic Environment of the Housing Estates

Table 4.18: Satisfaction with Socio-Economic Environment of Housing Estates

Individual Satisfaction Scores	Rating	Frequency	Percentage
7.0-12.0	Very Dissatisfied	15	2.90
13.0-17.0	Dissatisfied	124	23.98
18.0-22.0	Fair	297	57.45
23.0-27.0	Satisfied	70	13.54
28.0-33.0	Very Satisfied	11	2.13
Total		**517**	**100.00**

Source: Field Work, 2019

The socio-economic environment of the housing estates was assessed by the level of Noise, Crime and Anti-social Activities, Residence Relation to the Culture of the Respondents, Distance between Residence and Place of Work, Communal Activities, Business and Job Opportunities as well as Prices of Goods and Services within and around the estates. Table 18 shows the respondents level of satisfaction with these housing sub-components. An examination of Table 4.18 reveals that most (57.45%) of the respondents were neither satisfied nor dissatisfied with the socio-economic environment of the housing estates. However, 13.54% and 2.13% of the respondents were satisfied and very satisfied with socio-economic environment of the housing estates respectively, while 23.98% and 2.90% of them were dissatisfied and very dissatisfied with socio-economic environment within and around the estates respectively. This result indicates that majority of respondents expressed dissatisfaction with the socio-economic environment of the housing estates.

(v) Satisfaction with Management of Housing Estates

Table 4.19: Satisfaction with Management of Housing Estates

Individual Satisfaction Scores	Rating	Frequency	Percentage
0.0-3.0	Very Dissatisfied	1	0.20
4.0-7.0	Dissatisfied	8	1.55
8.0-11.0	Fair	229	44.29
12.0-15.0	Satisfied	215	41.59
16.0-20.0	Very Satisfied	64	12.38
Total		**517**	**100.00**

Source: Field Work, 2019.

Ukoha and Beamish (1997) identified the management aspect of public housing as one of the sources of housing satisfaction in Nigeria; therefore, an examination of the level of satisfaction of residents with the management of housing estates was examined. This study used four attributes, namely: General Cleanliness of the Estates, Rules and Regulations Regarding Residency, Management and Maintenance of Facilities and General Security of Life and Property in the housing estates in assessing respondents' level of satisfaction with Management sub-component of public housing. Examination of the result on Table 19 reveals that 41.59% and 12.38% of the respondents were respectively satisfied and very satisfied with the management of the estates, while small fractions (1.55% and 0.20%) were respectively dissatisfied and very dissatisfied respectively. However, 44.29% of the respondents felt they were neither satisfied nor dissatisfied with the management of the housing estates. This result clearly shows that majority of the respondents were satisfied with the management of the housing estates. This is however inconsistent with the level of adequacy of the management of facilities in the housing estates which Table 19 indicated that majority of the respondents felt was inadequate. It also appears not to be in agreement with findings in Ukoha and Beamish (1997) suggesting that management features were among the key sources of dissatisfaction in the public housing in Abuja, Nigeria. However, it could be inferred that the involvement of

residents' Community Development Association (CDAs) in the management of the estates might have accounted for respondents' satisfaction with the management aspect of the estates.

The foregoing result has revealed that although the number of respondents who were dissatisfied with the housing was more than those who were really satisfied, most of the respondents were satisfied with Housing Unit Attributes and Management of Housing Estate sub-components with majority of the respondents expressed dissatisfaction with the Housing Services, location of Neighborhood Facilities and Socio-economic Environment of the Housing Estates.

4.4.2 Residential Satisfaction across the Four Housing Delivery Strategies

Having examined the overall residential satisfaction with all the housing estates built in the four strategies jointly, this section assesses the satisfaction level of respondents with housing provided through the four housing delivery strategies separately. This is with a view to identifying differences and similarities across the strategies.

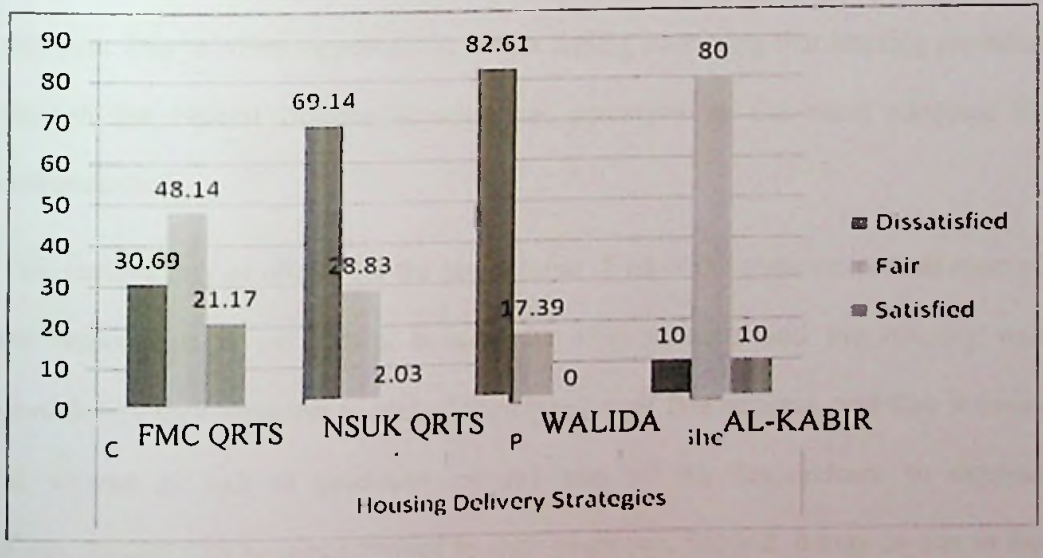


Figure 4.4: Residential Satisfaction across Housing Delivery Strategies

Source: Field Work, 2019

Figure 4.5shows the result of residential satisfaction of respondents in housing provided through the four housing delivery strategies. Examination of the result reveals that 48.14%, 28.83%, 17.39% and 80% of the respondents in the Federal Housing, FMC QRTS, WALIDA and AL-KABIR strategies respectively felt they were neither satisfied nor dissatisfied with the housing in the estates sampled, while 30.69%, 69.14%, 82.61% and 10% of those in the Federal Housing, FMC QRTS, WALIDA and AL-KABIR respectively claimed they were dissatisfied with their residential environment. About 21.17%, 2.03% and 10.0% of those sampled in the Federal housing, FMC QRTS and AL-KABIR strategies were respectively satisfied with the residential environment provided in the estates. It is evident from the result that whereas the largest number of respondents who were satisfied with their residential environment were in the Federal Housing, none of those interviewed in the WALIDA housing indicated that he/she was satisfied with the housing in this estate. Specifically, the largest proportion of those who claimed they were dissatisfied lived in the WALIDA estate. This result suggests that residents in the Federal housing were the most satisfied while those living in the AL-KABIR housing were the least satisfied. This provides support to the earlier finding indicating that housing provided through the Federal Housing strategy was perceived as the most adequate by respondents.

Two reasons may be offered for the above result. First is the observation that most of the respondents in the Federal housing are civil servants and the housing was provided by their employer as part of employees' well fare scheme, and thus it could be viewed as lack of patriotism on the part of the respondents to express dissatisfaction with housing provided by their employer. Second, it may be due to the involvement of the residents (most of who are owners of the houses) in the extension

of the housing from 1-Bedroom unit to 2- and 3-bedroom units. Therefore, as owner-occupiers, it is natural for them to express satisfaction with housing they were actively involved in its development. This view is based on the observation residents in the FMC QRTS have an opportunity to make input in ensuring that the houses meet their family and personal needs, desires and aspirations. One may also argue that it is for the same reasons of being owner-occupiers and being involved in the finishing work of housing units that the AL-KABIR delivery strategy has second highest proportion of respondents who expressed satisfaction with their housing environment and least proportion of those who were dissatisfied with their housing. This result tends to suggest that people are less satisfied with housing in which they had little or no input both at the design and/or construction stages. Therefore, public housing policy formulation, programme design and implementation should give priority attention to the involvement of housing users in housing provision for enhanced level of satisfaction.

4.4.3 Evaluation of Residential Satisfaction across the different Housing Estates

(i) Federal Medical Centre Staff Quarters (FMC QRTS)

In examining how the respondents construed evaluation of residential satisfaction across the different housing delivery strategies, a principal component analysis was carried out using the variable Principal normalization method with the criteria for convergence set at 0.00001 across the different housing delivery strategies. The factor analysis of residential satisfaction evaluation variables in the FMC QRTS shows that three (3) factors accounted for 49.12% of the variance in the result (Table 4.20). The components loadings show the factors that the variables represented. Table 4.20 shows that the first factor of residential satisfaction evaluation which accounted for 32.17% of the variance in the data represented spatial characteristics of buildings,

provision and maintenance of services and facilities loaded highly on a number of attributes: satisfaction with lighting and air circulation in living and bedrooms (0.728), satisfaction with bath and toilet facilities (0.708), satisfaction with number of bedrooms (0.704) satisfaction with the type of residence (0.704), satisfaction with general cleanliness of the housing estate (0.688) and others. The second factor which accounted for 9.34% of the variance in the result was security and loaded on satisfaction with security of life and property in the housing estates (-0.524) while the last factor was size of bedrooms which accounted for 7.60% of variance in the result loaded on satisfaction with the sizes of bedrooms in the house (0.647). From the above result, it can be appreciated that respondents in the FMC QRTS evaluated residential satisfaction based on spatial and physical attributes of buildings, provision and maintenance of services and facilities, level of security, and sizes of bedrooms as shown on Table 20.

Table 4.20: Dimensions of Residential Satisfaction Description in the FMC QRTS

Factors	Housing Attributes	Factor Loading
Factor 1: Spatial and Locational characteristics of buildings, provision and maintenance of services and facilities	Satisfaction with the Sizes of Living and Dining Spaces	0.531
	Satisfaction with the Number of Bedrooms in the Residence	0.704
	Satisfaction with the Sizes of Cooking and Storage Spaces	0.567
	Satisfaction with the Type of Residence	0.702
	Satisfaction with Bath and Toilet facilities in the Residence	0.708
	Satisfaction with the Type of Building Materials Used	0.518
	Satisfaction with the Location of Residence	0.630
	Satisfaction with External Appearance of Residence	0.620
	Natural Lighting and air circulation in Living and Bed rooms	0.728
	Satisfaction with the level of Noise in the Quarters	0.612

	Satisfaction with Water Supply and Sanitary Services in the residence	0.641
	Satisfaction with Electrical Services in the Residence	0.571
	Satisfaction with the Cost of Acquiring/Rentage of Residence	0.523
	Satisfaction with nearness of house to Recreation / Sporting Facilities	0.539
	Satisfaction with nearness to House to Public Infrastructure and Urban Services	0.502
	Satisfaction with nearness of house to nearest Health Care Facilities	0.517
	Satisfaction with nearness of house to Children's School	0.569
	Satisfaction with the nearness of house to the nearest Market	0.674
	Satisfaction with the Prices of goods and services in the Housing Estate	0.600
	Satisfaction with the Residence in relation to your Culture	0.560
	Satisfaction with Rules and Regulations within the Housing Estate	0.568
	Satisfaction with Management and Maintenance of facilities in Housing Estate	0.646
	Satisfaction with the state of Cleanliness of the Housing Estate	0.579
	Satisfaction with the Prices of goods and services in the Housing Estate	-0.608
	Satisfaction with the level of Communal Activities in the Housing Estates	0.525
	Satisfaction with the Residence in relation to your Culture	0.560
	Satisfaction with Management and Maintenance of facilities in Housing Estate	0.646
	Satisfaction with the state of Cleanliness of the Housing Estate	0.688
Factor 2: Security	Satisfaction with Security of life and property in the housing Estate	-0.524
Factor 3: Size of Bedrooms	Satisfaction with the Sizes of Bedrooms in the house	0.647

Source: Field Work, 2019

(ii) The Nasarawa State University Staff Quarters (NSUK QRTS)

The result of the factor analysis on how respondents in the Nigeria Communication Commission provided housing construed residential satisfaction again shows that three (3) factors accounted for 52.66% of variance in the result (Table 4.21). The components loadings show the factors that the variables represented. Table 4.21 shows that the first factor of residential satisfaction evaluation which accounted for 28.86% of the variance in the data represented the physical and locational characteristics of residence and management of facilities loaded highly on satisfaction with nearness of house to public infrastructure and urban services (0.747), satisfaction with level of communal activities in the housing estates (0.743), satisfaction with residence in relation to culture of respondents(0.722), nearness of house to shopping facilities(0.713), satisfaction with nearness of house to the nearest market(0.710) and satisfaction with prices of goods and services in the housing estate (0.706) and others.

The second factor accounted for 15.26% of variance in the result represented the sizes of spaces number of bedrooms and cost of housing is loaded on satisfaction with the sizes of living/dining spaces (0.615), number of bedrooms in the residence (0.602), satisfaction with sizes of cooking and storage spaces (0.574), satisfaction with sizes of bedrooms in the house (0.566), and satisfaction with the cost of acquiring/ rentage of the residence (0.520). The third factor accounted for 8.55% of variance in the result represented the provision of housing services loaded on satisfaction with electrical services in the residence (0.609) and satisfaction with water supply and sanitary services (0.595).

From the result presented above, one can infer that respondents in the Nasarawa state university staff quarters based their residential satisfaction evaluation of three key

factors of physical attributes of buildings, location of facilities, sizes of interior spaces and provision of housing services as shown on Table 4.21.

Table 4.21: Dimensions of Residential Satisfaction Description in NSUK QRTS

Factors	Housing Attributes	Factor Loading
Factor 1: Physical and locational characteristics of residence and management of facilities	Satisfaction with the Type of Residence	0.578
	Satisfaction with Bath and Toilet facilities in the Residence	0.617
	Satisfaction with the Location of Residence	0.504
	Satisfaction with External Appearance of Residence	0.523
facilities	Satisfaction with nearness of house to Recreation / Sporting Facilities	0.551
	Satisfaction with nearness to House to Public Infrastructure and Urban Service	0.747
	Satisfaction with proximity to Shopping Facilities from Residence	0.713
	Satisfaction with nearness of house to nearest Health Care Facilities from your house	0.545
	Satisfaction with nearness of house to Children's School	0.605
	Satisfaction with the nearness of house to the Nearest Market	0.710
	Satisfaction with the Prices of goods and services in the Housing Estate	0.706
	Satisfaction with Business and Job opportunities within and around the Estate	0.617
	Satisfaction with the level of Communal Activities in the Housing Estates	0.743
	Satisfaction with the Residence in relation to your Culture	0.722
	Satisfaction with Rules and Regulations within the Housing Estate	0.686
	Satisfaction with Management and Maintenance of facilities in Housing Estate	0.667
	Satisfaction with the state of Cleanliness of the Housing Estate	0.609
		0.619

	Satisfaction with Security of life and Property in the Housing Estate	
Factor 2: Sizes of interior Spaces and cost of housing	Satisfaction with the Sizes of Living and Dining Spaces	0.615
	Satisfaction with the Sizes of Bedrooms in the house	0.566
	Satisfaction with the Number of Bedrooms in the Residence	0.602
	Satisfaction with the Sizes of Cooking and Storage Spaces	0.574
	Satisfaction with the Cost of Acquiring/ Rentage of Residence	0.520
Factor 3: Provision of Housing Services	Satisfaction with Electrical Services in the Residence	0.609
	Satisfaction with Water Supply and Sanitary Services in the residence	0.595

Source: Field Work, 2019

(iii) The WALIDA Housing Estate

In the WALIDA housing estate, residential satisfaction evaluation shows that four (4) factors accounted for about 71.67% of variance in the result (Table 4.22). The components loadings show the factors that the variables represented. Table 4.22 shows that the first factor of residential satisfaction evaluation which accounted for 27.20% of the variance in the data represented housing unit attributes and management of facilities in the estate highly loaded on satisfaction with the location of residence in the housing estate (0.944), satisfaction with external appearance of the residence (0.940), satisfaction with bath and toilet facilities in the residence (0.939), satisfaction with general security of life and property in the estates (0.933), satisfaction with management and maintenance of facilities in the housing estate (0.929) and satisfaction with the type of building materials used on the building (-0.921). Among other attributes this factor is loaded on are satisfaction with nearness of house to public infrastructure and urban services (0.838), satisfaction with cost of acquiring/rentage of residence (0.673), satisfaction with electrical services (0.653),

satisfaction with relation of residence to culture (0.588) and satisfaction with rules and regulations regarding residency in the housing estate (0.577).

The second factor which accounted for 19.15% of variance in the result represented provision of housing services and location of neighborhood facilities loaded highly on satisfaction with nearness of house to the nearest healthcare facilities (0.825), satisfaction with nearness of house to the nearest market (0.816) and satisfaction with the type of residence (-0.806). This factor was also loaded on satisfaction with communal activities in the housing estate (0.640), satisfaction with the level of noise in the housing estate (0.560) and satisfaction with electrical services (-0.544).

The third factor counted for 16.54% of variance in the result represented sizes of living/dining space, water supply and socio-economic environment of housing estate and loaded on satisfaction with water supply and sanitary services (0.813), satisfaction with level of crime and anti-social activities in the estate (0.784) satisfaction of house to the place of work (-0.759), satisfaction with natural lighting and air circulation in living and bedrooms (0.610), satisfaction with sizes of living/ dining spaces (0.581) and satisfaction with business and job opportunities within and around the housing estates (-0.578).

The fourth factor that described residential satisfaction in this estate accounted for 8.78% of variance in the result represented number of bedrooms, sizes of cooking and storages and cleanliness of the housing estate loaded on satisfaction with the number of bedrooms in the residence (-0.681), satisfaction with sizes of cooking and storage spaces (0.642), satisfaction with nearness of house to (0.690) and general cleanliness of housing estate (0.659) as shown on Table 4.22.

Table 22: Residential Satisfaction Description in the WALIDA Housing Estate

Factors	Housing Attributes	Factor Loading
Factor 1: Physical and locational characteristics of residence and management of facilities	Satisfaction with the Type of Building Materials Used	-0.921
	Satisfaction with Bath and Toilet facilities in the Residence	0.939
	Satisfaction with the Location of Residence	0.944
	Satisfaction with External Appearance of Residence	0.940
	Satisfaction with Electrical Services in the Residence	0.653
	Satisfaction with the Cost of Acquiring/ Rent age of Residence	0.673
	Satisfaction with nearness to House to Public Infrastructure and Urban Services	0.838
	Suitability of Residence to natural way of life	0.558
	Satisfaction with Rules and Regulations within the Housing Estate	0.577
	Satisfaction with Management and Maintenance of facilities in Housing Estate	0.929
	Satisfaction with Security of life and Property in the Housing Estate	0.933
	Satisfaction with the level of Noise in the Housing Estate	0.560
Factor 2: Provision of housing services and location of facilities	Satisfaction with Electrical Services in the Residence	-0.544
	Satisfaction with the Type of Residence	-0.806
	Satisfaction with nearness of house to nearest Health Care Facilities from your House	0.825
	Satisfaction with the nearness of house to the nearest Market	0.816
	Satisfaction with the level of Communal Activities in the Housing Estates	0.640
Factor 3: Sizes of living/ dining water supply and Socio – Economic environment	Satisfaction with the Sizes of Living and Dining Spaces	0.581
	Satisfaction with Natural Lighting and air circulation in Living and Bed rooms	0.610
	Satisfaction with Water Supply and Sanitary Services in the residence	0.813
	Satisfaction with the Distance to Place of Work	-0.759
	Satisfaction with Business and Job opportunities within and around the Estate	-0.578
	Satisfaction with the Level of crime and anti-social activities in the Housing Estate	0.784
Factor 4: Number of bedrooms, sizes	Satisfaction with the Number of Bedrooms in the Residence	-0.681

	Satisfaction with the Sizes of Cooking and Storage Spaces	0.642
of cooking and storages and	Satisfaction with nearness of house to Children's School	0.690
Cleanliness of the estate	Satisfaction with the general cleanliness of the Housing Estate	0.659

Source: Field Work, 2019

(iii) The AL-KABIR Housing Estate

The result of the factor analysis on how respondents in AL-KABIR provided housing construed residential satisfaction shows that four (4) factors accounted for 82.43% of variance in the result (Table 23). The components loadings show the factors that the variables represented. Table 4.23 shows that the first factor of residential satisfaction evaluation which accounted for 30.16% of the variance in the data represented management of estate facilities, water supply and number of bedrooms loaded highly on satisfaction with level of communal activities in the estate (0.980), satisfaction with nearness of house to place of work (0.978), nearness of house to recreation/sporting facilities (0.948), satisfaction with business and job opportunities with and around the estate(0.943), rules and regulations regarding residency in the housing estate (0.877). The others two attributes loaded on these factors were satisfaction with water supply and sanitary services (0.607) and satisfaction with the number of bedrooms in the residence (-0.556).

Housing Unit Attributes and provision of Electrical Services and Public Infrastructure was the second factor which accounted for 22.29% loaded highly on satisfaction with the level of noise in the housing estate (0.925), satisfaction with nearness of house to public infrastructure and urban services (0.921), satisfaction with level of crime and anti-social activities in the housing estate (0.921), satisfaction with the type of building material used (0.836), satisfaction with bath and toilet facilities in the

residence (-0.712), satisfaction with electrical services (-0.625) and satisfaction with sizes of cooking and storage spaces (0.591).

The third factor accounted for 17.31% of variance in the result represented sizes of bedrooms, cost of housing and nearness of house to shopping facilities loaded highly on satisfaction with sizes of bedrooms in the house (0.965), nearness of house to shopping facilities (-0.874), satisfaction with electrical services in the residence (0.728) and satisfaction with the cost of acquiring/rentage of residence (0.673).

The fourth factor which accounted for 12.68% of variance in the result represented location of residence, children's school, place of work and sizes of living/ dining spaces loaded on satisfaction with nearness of house to children's (0.724), satisfaction with nearness of house to place of work (0.683), satisfaction with sizes of living/dining spaces(0.613), satisfaction with location of residence (-0.613) and satisfaction with natural lighting and air circulation in living and bed rooms (-0.557) as shown on Table 23.

Table 4.23: Residential Satisfaction Description in the AL-KABIR Housing Estate

Factors	Housing Attributes	Factor Loading
Factor 1: Management of Estate facilities, Water Supply and Number of Bedrooms	Satisfaction with the Number of Bedrooms in the Residence	-0.556
	Satisfaction with Water Supply and Sanitary Services in the Residence	0.607
	Satisfaction with nearness of house to Recreation / Sporting Facilities	0.948
	Satisfaction with the Distance to Place of Work	0.978
	Satisfaction with Business and Job opportunities within and around the Estate	0.943
	Satisfaction with the level of Communal Activities in the Housing Estates	0.980

	Satisfaction with the Residence in relation to your Culture	0.603
	Satisfaction with Rules and Regulations within the Housing Estate	0.877
	Satisfaction with Management and Maintenance of facilities In Housing Estate	0.945
	Satisfaction with the state of Cleanliness of the Housing Estate	0.945
Factor2: Housing Unit	Satisfaction with the level of Noise in the Housing Estate	.0.925
Attributes, Provision of	Satisfaction with the Sizes of Cooking and Storage Spaces	0.591
Electrical access and	Satisfaction with Bath and Toilet facilities in the Residence	-0.712
Urban Services	Satisfaction with the Type of Building Materials Used	0.836
	Satisfaction with Electrical Services in the Residence	-0.652
	Satisfaction with nearness to House to Public Infrastructure and Urban Services	0.921
	Satisfaction with the Level of crime and anti-social activities in the Housing Estate	0.921
	Satisfaction with Security of life and Property in the Housing Estate	0.921
Factor 3: Sizes of bedrooms, cost of housing	Satisfaction with the Sizes of bedrooms in the house	0.965
Room, cost of housing	Satisfaction with the Cost of Acquiring/ Rent age of Residence	0.673
and nearness of shopping facilities	Satisfaction with proximity to Shopping Facilities from Residence	-0.874
Factor 4:		
Sizes of living/dining spaces and	Satisfaction with nearness of house to Children's School	0.724
bedroom, location of	Satisfaction with the Sizes of Living and Dining Spaces	0.613
Children's school and	Satisfaction with the Location of Residence	-0.613
place of work	Satisfaction with Natural lighting and air circulation in Living and bedrooms	-0.557
	Satisfaction with the distance to Place of Work	0.683

Source: Field Work, 2019

The examination of dimensions of residential satisfaction across the different strategies shows an interesting pattern. In the NSUK QRTS, FMC QRTS, WALIDA and AL-KABIR housing estates, the strong feelings attached to physical attributes of housing units, location of neighborhood facilities and management of estate facilities have been identified. It can also be seen from the result that the provision of housing services, sizes of interior spaces and security were the other key constructs that were identified and named as key factors that can be used to describe residential satisfaction in the estates provided through the university and health care Housing delivery strategies. Whereas, in these staff quarters, three distinct dimensions of evaluation of residential satisfaction are identifiable, four factors were found to be fundamental to how the respondents in the AL-KABIR and WALIDA housing construed residential satisfaction. Specifically, a closer examination of the four dimensions of residential satisfaction evaluation in the AL-KABIR and WALIDA housing estates reveals that in each of the factors, housing unit attributes, housing services, location of facilities estate management variables were all loaded. This is an indication of the importance the respondents attached to these housing attributes

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Result of analysis revealed that the highest percentage (80.0%) of male respondents were in AL-KABIR housing estate, the least were in the FMC QRTS. In contrast, the highest proportion (42.86%) of female respondents lived in the NSUK QRTS, whilst the least (20.0%) lived in AL-KABIR housing estate. It was revealed that 68% of the respondents in FMC QRTS were male while 31.19% were female compared with male respondents in WALIDA hosing estate (60.87) and female respondents representing 39.13%. The result of the analysis on the type of tenure of the respondents shows that most of the respondents in the FMC QRTS, WALIDA and AL-KABIR provided dwelling were owner-occupiers.

It was revealed that 42.40% of the housing units were 3-bedroom apartments, 35.59% were 2 bed rooms; 17.02% were 1-bedroom and 4.26% were 4-bedroom apartments. Housing units of more than 4-bedrooms contributed less than 1.0% to the sample. Result showed that majority (75.66%) of the housing units provided through the FMC housing strategy were semi-detached bungalows, while 66%, 60.87% and 100% of the housing units provided through the Federal Housing, WALIDA and AL-KABIR strategies respectively were detached single family bungalows. A small fraction (4.40%) of single-family duplexes was provided through the NSUK QRTS strategy. However, result showed that 35.78% of all the housing units were acquired through mortgage, 17.02% were through outright purchasing from the developers, while the remaining percentage were through government allocation, outright purchasing from previous owners, and inheritance.

Result further showed that around 52.61% of the respondents rated the housing as inadequate, 30.56% claimed it was fair, 9.09% felt that their housing was adequate, 1.74% indicated that it was very adequate, while 6.0% perceived it as very inadequate. This result clearly shows that a majority of the residents' perceived housing provided in institutional housing in the study area as inadequate. It was reveals that about one half (50.48%) of the respondents claimed that the level of adequacy of Housing Unit Attributes was fair, 18.96% felt Housing Unit Attributes were adequate and 2.32% indicated that they were very adequate. However, 25.73% and 2.51% claimed that the Housing Unit Attributes were inadequate and very inadequate respectively. Regarding the level of adequacy of Housing Services and Infrastructure, the result of the analysis in Table 1 0 revealed that around 51.45% and 11.030% of the respondents perceived Housing Services and Infrastructure as in-adequate and very inadequate respectively.

It was further found out that majority of the respondents in public housing estates surveyed were not satisfied with their residential environment, while small proportion indicated that they were satisfied. However, about one–third of the population sampled was neither satisfied nor dissatisfied with the residential environment. The respondents perceived moderate level of satisfaction with housing unit attributes, socio-economic environment and estate management features. They however perceived low satisfaction level with the provision of housing services as well as location of neighborhood facilities respectively. In housing provided in the different delivery strategies, it was found that the NSUK QRTS ranked the highest satisfaction level; next to it were the AL-KABIR, FMC QRTS and WALIDA delivery strategies respectively.

5.2 Conclusion

This study has demonstrated that appropriate housing provision will provide tangible result in the provision of access to adequate and satisfactory housing. Each of the four housing delivery strategies adopted in institutional housing in Keffi has different characteristic outcomes which all offer a certain degree of potential merits in housing provision for different socio-economic groups. However, the NSUK QRTS appears to be the most effective strategy for housing provision for majority of citizens who are low-income earners in the study area. It is obvious from this study that security of life and property, protection against noise, dampness, fire and harmful insect and animals as well as provision and maintenance of housing services and neighborhood facilities require critical attention in order to improve on the adequacy and satisfaction levels in institutional housing in the study area. In conclusion, this study has shown that the adoption of different housing delivery strategies can result in the provision of adequate housing for different categories of people, which will in turn lead to improved quality of life among residents of institutional housing. It is also evident that the Nasarawa State Government represented by the institutional housing agencies was playing the role of a facilitator of housing provision by allowing home buyers to be responsible for the cost of housing provision while the government provide, land, title documents, community facilities, architectural and engineering services. Therefore, urgent policy attention is required in this regard to enable government acts as both provider and enabler of housing for the benefit of majority of the citizens across all sectors of the society.

5.3 Recommendations

Findings showed that institutional housing provision in Keffi town tended towards market–driven delivery strategies, with reasonable proportion of cost of housing provision borne by end users rather than by the government. This appears to be consistent with current trend in institutional housing, which places emphasis on market-friendly policies and strategies aimed at enhancing private sector participation as well as reduction in government's direct involvement in housing provision (World Bank, 1993; UNCHS, 2000), but this has implications for housing low-income earners.

There is need for policy adjustment with respect to integrating incremental housing as a key aspect of housing provision for low-income people and ensuring that every housing programme has element of incremental housing. Housing policies should also encourage the involvement of intended users in the production of housing to ensure adequacy and satisfaction.

In the built environment, access to basic infrastructural services constitutes basic requirements for sound human settlement, good health and appropriate and decent living conditions. This study however found out that the key source of housing inadequacy and dissatisfaction among residents of housing in the study area was lack of access to basic infrastructural services. In fact, some basic social infrastructure like schools, health, recreational and shopping facilities were virtually non-existent in most of the housing estates surveyed.

Apart from the issue of lack of social infrastructure, the housing units were found to be spatially deficient in terms of number of bedrooms, conveniences and spaces for shop. They were also deficient in fire protection measures. The policy implication of

this finding is that in future institutional housing schemes, architectural features of housing units should be upgraded by engaging better housing design principles. In this respect, architects and related professionals should give more attention to security of life and property, protection against noise, dampness, fire and dangerous insects in the design and planning of institutional housing. This is necessary if residential environment in institutional housing estates must contribute significantly to the enhancement of the quality of life of residents.

It is suggested that institutional housing policy makers and programme designers should have adequate knowledge on the attributes and personalities of target population to ensure the success of future housing policies and schemes.

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APPENDIX ONE

Questionnaire for staff of Institutional Housing Agencies

Dear Respondent,

This questionnaire is designed to elicit responses on issues relating to respondent's satisfaction of housing programme in Keffi LGA. It is mainly an instrument for gathering data for an on-going research on institutional housing adequacy. All information provided will be treated confidentially, and used purely for academic purpose.

Thanks for providing responses to the questions

INSTRUCTION: Please tick (√) or fill as appropriate

SECTION A: SOCIO-ECONOMIC AND DEMOGRAPHIC INFORMATION

1. Sex(i) Male ( ) (ii) Female ( )
2. How old are you? (i) 18 – 30 years ( ) (ii) 31 – 45 years ( ) (iii) 46 – 50 years ( ) (iv) 51 – 60 years
3. Marital status: (i) Single ()(ii) Divorced ( )(iii) Married ()(iv) Widowed ()
4. What is the level of your educational attainment? (i)OND( ) (ii) NCE ( ) (ii) HND () (iv)Bachelor degree () (v) Master's degree () (vi) PhD ( )
5. What is the range of your average monthly income? (i) Below ₦3, 000 () (ii) ₦14,000 – ₦37,000 (iii) ₦38,000 – ₦44,000 () (iv) ₦45 – ₦100,000 ( ) (v) ₦150,000 – ₦200,000 ()(vi) above ₦300,000 ( )
6. How long have you been working in the institutional service?(i) Less than 10years () (ii) 10-15years () (iii) 15-25 years ( )(iv) More than 25 years ()
7. tion _____

8. How long have you been working in this establishment?(i) Less than 10years ( ) (ii) 10-15years ( ) (iii) 15-25 years ( ) (iv) More than 25 years ( )
9. What is your designation? (i) Director () (ii) Deputy Director () (iii) Head of Department ( ) (iv) Senior Technical staff ( ) (v) Management staff () (vi) Administrative staff ( ) (vii) others, please specify----------
10. Which of these incentives are available to you as a staff of this organization? (i) Financial incentive ( ) (ii) Good working environment ( ) (iii) Flexible working hours ( ) (iv) Recognition for hard work ( ) (v) Free access to internet facilities ( )

APPENDIX TWO

Questionnaire for residents of the Housing Estates

Dear Respondent,

This questionnaire is designed to elicit responses on issues relating to the public housing programmes in Keffi LGA. It is mainly an instrument for gathering data for an on-going research on institutional housing. All information provided will be treated confidentially, and used purely for academic purpose.

SECTION A: **BASIC INFORMATION**

1. Sex(i) Male ( )(ii) Female ( )
2. How old are you? (i) 18-30years () (ii) 31-45 years () (iii) 46-59years () (iv) 60years and above ( )
3. Marital Status:(i) Single ( )(ii) Divorced ( )(iii) Married ( )(iv) Widowed ( )
4. What is the highest level of your educational attainment? (i) First School Leaving Certificate ( )(ii) WASC O'Level ( ) (iii) OND ( ) (iv) NCE ( ) (v) HND ( ) (vi) Bachelor Degree ( ) (vii) Master's Degree ( ) (viii) PhD ( ) (ix) Others _____
5. What is your occupation? _____
6. What is the range of your average monthly income? (i) Below N 13, 000 ( ) (ii) ₦14,000 – ₦37,000 ( ) (iii) ₦ 38,000- N 44,000 ( ) (iv) ₦45- ₦ 71,000 ()(v) ₦100,000 – ₦ 200,000 ( ) Above ₦300,000 ( )
7. How long have you been living in this Housing Estate?(i) Less than 1year ( ) (ii) 13years ()(iii) 4-5 years ()(iv) More than 5 years ()

SECTION B: HOUSING CHARACTERISTICS

1. How many bed rooms do you have in your apartment?(i) 1 ()(ii) 2 ()(iii) 3 ( )(iv) 4 ( )(v) More than 5 bed rooms ().
2. How many persons live in this apartment?(i) 1 ( )(ii) 2 ( )(iii) 3 ()(iv) 4 () (v) More than4 ( ).
3. Where is your kitchen located?(i) Within the building () (ii) Detached from the building (iii) No Kitchen ( )
4. How is the use of kitchen? (i) Exclusively used by your family ()(ii) Shared with other families ( )
5. Identify as many spaces as you require that are not provided in your apartment?(i) Space for Shop () (ii) Storage spaces () (iii) Visitors" toilet ()(iv) Guest room ( )(v) Laundry () (vi) Outdoor cooking space ()
6. What is the type of tenure of the house you are occupying?(i) Privately rented ( ) (ii) Family owned ( ) (iii) Owner occupied (iv) Official quarters ()(v) Free Occupation ( )
7. If owner occupied, how did you acquire the ownership of the house?(i) Bought directly from the developers () (ii) Bought from previous owner (s) ()(iii) Government Allocation () (iv) Inheritance () (iv) Mortgage arrangement ()(v) Gift ()
8. In your opinion, the conditions for acquiring/ and or rentage of the house are(i) Very Stringent ()(ii) Stringent ( )(iii) Less stringent ( )(iv) Not stringent ( )
9. In your opinion, the cost of acquiring or renting this house can best be described as(i) Highly Unaffordable ( ) (ii) Unaffordable ()(iii) Affordable () (iv) Highly affordable ()
10. What is the predominant source of water supply in your apartment?(i) Water vendors ()(ii) Wells outside the building ( ) (iii) Borehole within the estate ()(iv)Institutional water supply system ( )
11. What is the main source of power supply in your apartment? (i) Personal Power Generating sets ()(ii) Power Generating Plant in the estate () (iii) Solar Panels ( ) (iii) Institutional Power supply ()
12. Refuse disposal in the housing estate you are living in is usually done by the(i) Residents ( ) (ii) Contractors () (iii) Estate Managers () (iv) Government agencies ( )

13. Who maintains the facilities in the housing estate you live in?

(i)Individual residents () (ii) Estate Agents ( )(iii) Tenants' Association ()(iv) Owners of the estate ( )(v) Government agency ( ) (vi) others, please specify_____

SECTION C: HOUSING ADEQUACY

How would you rate the house and estate where you live in terms of the following? Pleasetick (√)

S/N	Housing Attributes	Very Inadequate	Inadequate	Fair	Adequate	Very Adequate
1	Sizes of Living & Dining Spaces in your House					
2	Sizes of bedrooms					
3	Number of bed rooms					
4	Size of cooking and storage spaces					
5	Natural lighting in Living/ Dining rooms					
6	Natural lighting in bedrooms					
7	Natural lighting in Kitchen					
8	Circulation of fresh air in Living/dining rooms					
9	Level of thermal comfort in your apartment					
10	Protection against noise pollution					
11	Protection against dampness in your house					
12	Protection against insects and dangerous animals					
11	Security measures in your house					
12	Fire safety measures in your house					
13	Level of privacy in your house					
14	Electricity supply in your house					
15	Portable water supply in your house					
16	Provision of Sanitary/ drainage facilities					
17	Provision of refuse disposal facilities					
18	Provision of shopping facilities in the estate					
19	Provision of educational facilities in the estate					
20	Provision of recreational/sport facilities					
21	Provision of Playground for children					
22	Provision of parking spaces in the estate					
23	Availability of open spaces/green areas					
24	Accessibility to medical and health care services					
25	Accessibility to Institutional transport service					
26	Accessibility to place of worship					
27	External lighting in the housing Estate					

APPENDIX THREE

Observation Schedule

Name and Location of Housing Estate: _____

House Number: _____

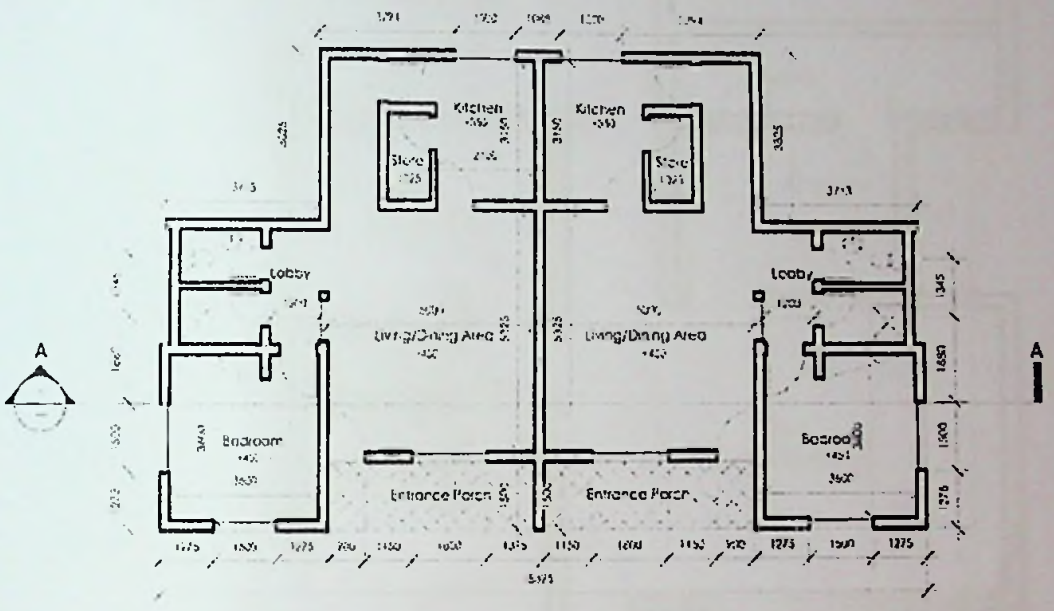
1. Housing Typology (i) Single-Family Bungalow [](ii) Semidetached Bungalow [ ](iii) Detached stored [ ] (iv) Semi-detached stored building (Block of flats) [](v) Duplex [] (vi) Others _____
2. Walling material of your house?(i) Sun dried burnt bricks [ ] (ii) Compressed Stabilized Laterite [ ](iii) Sancerre Cement Blocks [] (iv) Others _____
3. Wall finishing (i) Cement sand plastering [ ] (ii) Painted [ ] (iii) Others ____
4. Type of windows used in the house (i) Timber [ ] (ii) Glazed louvers [] (iii) glazed aluminium [ ]
5. The type doors used in the house (i) Plywood flushed [ ] (ii) Panelled timber [ ](iii) Aluminium Glazed [ ] (iv) Panelled Steel [ ] (v) others _____
6. Presence of mosquitoes net on windows(i) Yes [ ] (ii) No []
7. Burglary proof on windows and external doors (i) Yes [] (ii) No []
8. Type of floor finish (i) Cement screed [] (ii) PVC Tiles [] (iii) Ceramic Tiles [](iv) Terrazzo [ ] (v) Marble [ ] (vi) Others _____
9. Ceiling Material(s) (i) Asbestos [] (ii) Mineral Fibre [](iii) Acoustic ceiling [](iv) PVC strips [] (v) Polished timber [] (vi) Plaster of Plaster (POP) [ ]
10. Type of Roofing material(i) Galvanized iron [] (ii) Asbestos [](iii) Aluminium long span [](iv) Villa tiles [ ] (v) Others, specify _____
11. State of repair of the building?(i) Dilapidated [] (ii) Major repairs [] (iii) Minor repairs [] (iv) Sound []

12. Mode of discharge of waste water from the buildings(i) Central Waste treatment facilities [ ] (ii) Septic tank/soak away pits [ ](iii) Outside drains [](iv) Surface discharge []
13. The layout of the housing estate(i) Crowded [ ] (ii) Haphazard [] (iii) Spacious [ ] (iii) properly planned []
14. The characteristics of roads and walkways in the housing estate(i) Untarred but in good condition [] (ii) untarred and dilapidated [] (iii) Tarred but in disrepair [](iv)Tarred without drainage [](v) Tarred with drainage [ ] (vi) No walkways []
15. Perimeter fencing (i) Nonexistent [] (ii) Major repairs [] (iii) Minor repairs [] (iv) Sound []
16. Kiosks for retail shops (i) Nonexistent [] (ii) Present []
17. Security post at entrance(s) to the estate (i) Nonexistent [] (ii) Present []
18. General state of cleanliness of the estate (i) Very poor [] (ii) poor [] (iii) Fair [](iv) Good [ ](v) Very good [] (vi) Excellent []

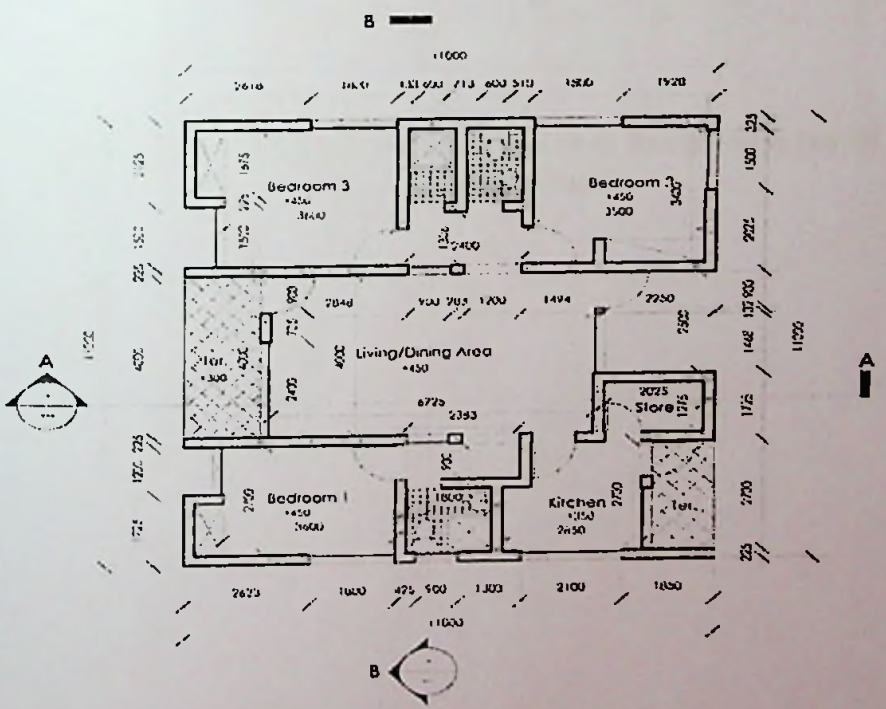
APPENDIX FOUR

ARCHITECHTURAL DESIGNS OF THE HOUSING ESTATES

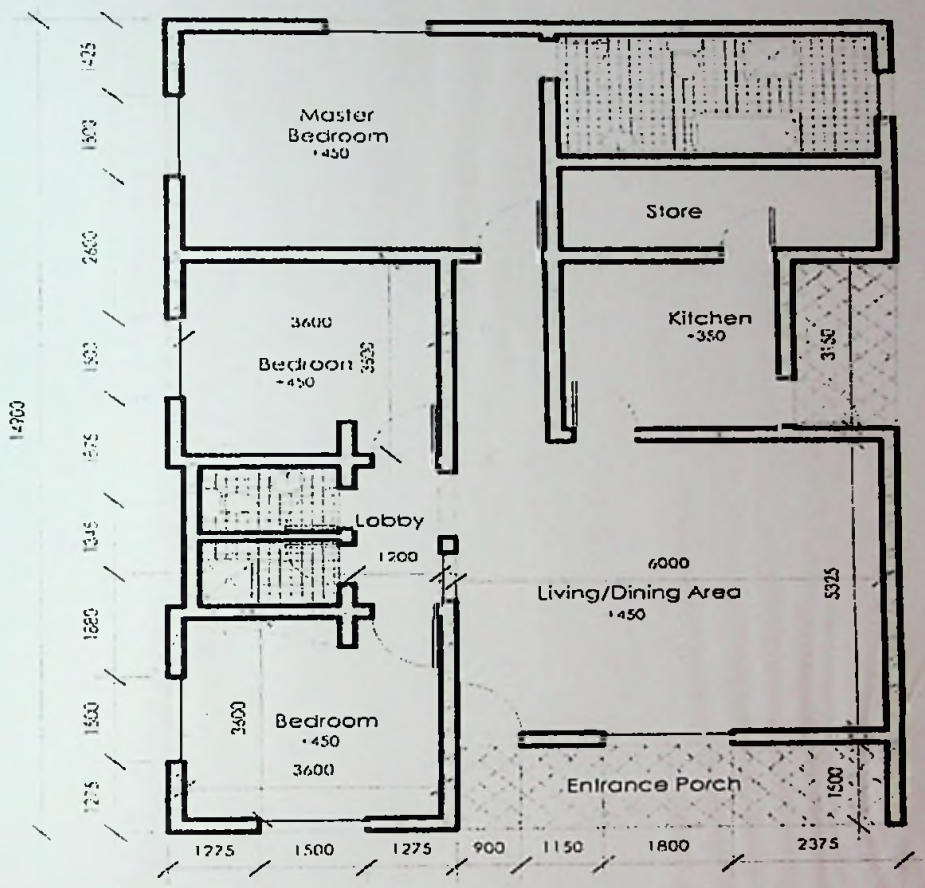
Floor Plans of Federal Housing Units



Floor Plan of a typical 3-Bed room Bungalow in the FMC Housing Estate



Floor Plan of a typical detached 3-bedroom Bungalow
in the WALIDA Housing Estate



Floor Plan of a typical detached 3-bedroom Bungalow in the AL-KABIR Housing Estate