

**ASSESSMENT OF RESIDENTIAL SATISFACTION AS A
DETRMINANT OF NEIGHBORHOOD CHOICE AMONG
RESIDENTS OF PUBLIC HOUSING ESTATES IN OWERRI,
IMO STATE, NIGERIA**

BY

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JUNE, 2023

**A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL,
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA, NIGERIA IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD
OF THE DEGREE OF MASTER OF TECHNOLOGY IN URBAN AND REGIONAL
PLANNING**

ABSTRACT

Housing is a basic requirement for the realization of better quality of life and standard of living. Adequate and decent housing determines the psychosocial, physical and spiritual satisfaction of the residents on the one hand and predicts their socioeconomic and emotional status, privacy and security on the other. The choice of neighbourhood depends on certain indicators that influence the residents. This study was aimed at assessing the level of residential satisfaction as a determinant of neighbourhood choice among the residents of public housing estates in Owerri. The objectives of the study were to assess the sociodemographic characteristics of the residents' in the selected public housing estates, assess the physical characteristics of the selected public housing estates and examine the residents level of residential satisfaction in the selected estates. Pearson product moment correlation technique was adopted in the analysis. A total of 351 copies of questionnaire were administered to residents of the public housing estates in Owerri Imo State, Nigeria. Data analysis was carried out with the aid of Statistical Package for Social Sciences (SPSS). The study revealed that there is a strong and positive correlation in the level of residential satisfaction between the residents of the selected Federal and State housing estates in the study area ($N = 351$, $p = <0.001$, $r = 0.86$). However, further in depth analysis of t-Test for Independent Samples revealed that the correlation was not statistically significant ($t = 1.45$, $p = 0.151$). The study also revealed that the major determinants of neighbourhood choice in the study area include (low housing rent, availability of water supply, security architecture, quality of housing units, circulation and availability of electricity supply). The study therefore recommended that intensive measures should be well positioned by the government and relevant non-governmental organizations to ensure sufficient provision and maintenance of facilities, utilities and services within the study area, the drainage system as well as sewage disposal and management system of the housing units should be carefully considered, as these contribute to all kinds of pollution within the housing estates and that the government should adopt policies that promote mortgage-based housing schemes for low and middleincome earners in Nigeria.

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CHAPTER ONE

1.0

INTRODUCTION

1.1 Background to the Study

Housing is a necessity for the survival of man, it is both a basic need (Agbola and Alabi, 2000; Agbola and Kassim, 2007; Ademiluyi, 2010; Duruzoechi, 2015, Sulyman, 2015) and a lodging for human habitation (Jinadu, 2007). Federal Republic of Nigeria (2012) argued that in all aspects, housing surpasses an ordinary shelter, given that it captures the totality of the social services and activities which makes a community liveable.

Olotuah (2006) noted that most buildings in the developing countries are structurally unsound, functionally obsolete, economically unprofitable and socially unacceptable in both cities and rural areas. Some communities experience challenges because of enormous government investments in the area of housing have not been capable of fashioning considerable easement in housing demand and acquisition, just as provision was grossly inadequate regarding needs of the people. As a result, there was a resultant overcrowding in which inhabitants are exposed to ill health from unhealthy environment that characterizes most public housing estates in Nigeria (Lawanson, 2006; Akeju, 2007).

In the past, concerted efforts were geared towards direct construction rather than provision of sites and services. Factors such as price of housing units, location, value and taste, affordability and bureaucratic procedures of housing delivery among others have added

momentum to the shortage and inaccessibility of the residential houses by the masses (UN-Habitat, 2006a). The problems of deficient housing and associated services especially in Nigeria cannot be over emphasized owing to fragile and weak implementation of national housing policy; high level of joblessness and poor living standard that make the none civil servants to have it virtually complicated to access any public housing incentive (Anofojie, 2010).

UN-Habitat (2006b) noted that despite government remarkable labour and efforts towards effective housing delivery, the public housing sector has not been able to attain its goal in Nigeria. Fatoye and Odusami (2009) opined that housing sector can be enhanced through qualitative housing construction and supply and that is need to discover and realize the basic aspirations of the end users, their prospects and the level at which the desires and potentials are met through accepted presentation, performance consideration and standards. Teck-Hong (2011) also maintained that to know the residential housing needs of the residents in an area is to evaluate all the factors responsible for residents' fulfilment and displeasure within the housing environment.

Satisfaction of residents is also perceived as a measure of the level at which existing residential position of end users meets and accomplishes their desired wants, prospect, opportunity and aspirations (Salleh, 2008). According to Olotuah (2006), the inhabitants right to housing is crucial in terms of provision of safety, privacy, community and collective relationship status, neighbourhood amenities and infrastructure, admittance to adequate employment opportunities and management of the environment. He also argued that high quality and reasonable housing with requisite facilities and amenities are regarded as some of the best indices of an individual's wellbeing in the society.

Jiboye (2014) noted that the manner in which an edifice performs when it is used is crucial for understanding whether or not it is perceived as successful and amounts to a benefit for its owners and inhabitants. An assessment of functional structures that are efficient helps to generate this awareness in relation to setting up of modern residential housing units and for the improvement and modification of the existing ones that are not pleasing to the residents (Clinton and Wellington, 2012). However, Florez (2002) noted that the selection of housing location is not only an idea and function of convenience, but also deals with the positive interaction with other factors like elements of the neighbourhood with its dwelling features and even the domestic characteristics. Also, Isaac *et al.* (2006) opined that job location, residential purifying, household income and lifestyle, crime levels expressively contributed to the natural movement of different families to city suburbs in Columbus Ohio. Several researches (Zahid *et al.*, 2015, Bergstrom *et al.*, 2013) have shown that both socio-economic and demographic features of families have much impact on the selection of the neighbourhoods they occupy. Furthermore, the liberty of selecting neighbourhoods is seen as a major factor towards determining the level of satisfaction of most occupants (Hamersma *et al.*, 2014, Bischoff and Reardon, 2013, Permentier, 2011). The indicators of neighbourhood choice in an area are critical towards understanding the actual path that will help in addressing neighbourhood lifestyles and human dwelling. The indicators of neighbourhood choice can be classified into social and physical environmental aspect (Roux, 2003). Social and physical features are both significant in the choice of several neighbourhoods, the social aspect of the environment has to do with the alleged satisfaction level of all occupants with crime rate and other social activities in the various neighbourhoods (Ajayi *et al.*, 2015). According to Carmona *et al.* (2008), majority of people desire to associate with the natural environment where aesthetic elements are found which in turn influences the choice of neighbourhood.

The choice to pay for a home is a huge financial obligation that in most cases will remain as a catalyst towards influencing the quality of life, open access to prospects and the decision on residential location that will help towards shaping our cities. Reviewing these decisions has a great influence on the culture and aspirations of the residents. Furthermore, the relatively influence that some indicators of neighbourhood choice have on residential choices and decisions makes a considerate thought of those factors important for the creation and active management of residential claim within an area (Guo and Bhat 2006).

In Owerri, majority of the public housing estates provide accommodation for diverse groups of persons who have divergent reactions, perceptions and notions regarding the level and quality of housing satisfaction derived from the residential units they occupied. Most often, residents do modify and construct additional structure in the already designed houses they occupy which indicates that they are possibly not contented with the current situation of the residential structures alongside the facilities and utilities in the housing units they occupy. It is against this premise that this research seeks to bring to limelight the factors and determinants of occupants satisfaction with neighbourhood choice in the study area and to suggest possible ways to improve the condition of the residential dwelling units in order to make them more habitable for the people to occupy.

1.2 Statement of the Research Problem

Housing is important to the development of any society and it has both economic and welfare effects (Ekpo, 2019). The importance of housing to man cannot be over emphasized because quality housing units provide protection, reduce stress, promote good health, provides security and comfort to its occupants (Jiboye, 2010). In most urban centres in developing countries of the world where Nigeria belongs, the predicaments of residential housing units are not only limited to number but the deprived quality of

obtainable residential units and its relationship with the elements of neighbourhood choice. Several researches (Sattertwate, 2001; Ravalin, 2007) have traced the challenges of the developmental issues in housing to increase in population and urban growth.

Fariha *et al.* (2018) opined that parameters like housing shortage, rise in the prices of housing units, location, construction materials, design efficiency, services, infrastructure and finance creates unaffordability of housing in most parts of the world. Xinhua (2019) however observed that the overall short fall of housing in Africa is estimated to be 56 million housing units and out of this, more than 90 percent (45 million housing units) are in the affordable housing bracket. He however noted that countries with growing housing deficit in Africa include Nigeria (22 million housing units), Tanzania and

Democratic Republic of Congo (3 million housing units) Kenya, South Africa and

Madagascar (2 million housing units). Majority of cities in Nigeria are fast becoming homes to large number of individuals due to rapid growing population and urbanisation among other factors, with this trend, there has been increase in the demand for housing across the country. The housing deficit crisis in Nigeria has worsened in recent times with statistics showing a deficit of 2 million housing units with urbanization rate of 4.78%. There has been a steady rise in the housing deficit, from 7 million in 1991, 14 million in 2010 to 22 million in 2021 (Emmanuel, 2019). From the report of the World Bank in 2018, Nigeria requires about 720,000 housing units annually, spanning through a period of 20 years in order to accommodate the rising population in the urban centres. This is highly unattainable with current indices coupled with the sluggish growth of housing sector in Nigeria with a population of approximately 200 million (World Bank, 2016). Coupled with high demand in housing units, both in quantity and quality, there is need to seriously address the issue of housing deficit in Nigeria. Imo state has been experiencing development due to its potentials in both mineral, infrastructure and hospitality sector which in turn increased the influx of people to the city centre from different parts of the country in search of better life, thereby leading to a housing deficit of 11,000 yearly (World Bank, 2016).

Olotuah (2010) had noted that the most visible and apparent penalties of urbanization in Nigeria is frequently the speedy wear and tear of metropolitan dwelling units and existing conditions which are traceable to the influence of rural to urban migration leading to high concentration of population especially in the urban centres. However, Amole (2009) and Jiboye (2009) have noted that public housing estates are developed to combat these pressing housing problems. Several researches such as Jiboye (2010) and Ayoola (2016)

was conducted to establish the passion of residents' satisfaction with housing, thereby adopting post occupancy evaluation techniques; however, slight concentration has been accorded to the indicators that determine neighbourhood choice of residents with respect to public housing estates in Owerri. Although the magnitude of housing satisfaction has been measured in different areas, emphasis has not been placed on understanding the predictors of neighbourhood choice as well as the differentials in housing satisfaction among people of different socio-economic and demographic distinctiveness. Furthermore, incidence of housing satisfaction regarding public housing estates with neighbourhood choice in Eastern Nigeria, especially in Owerri has attracted infinitesimal attention in the research community despite the wide spread mass housing development in Owerri, these are important gaps that this research intends to cover.

1.3 Research Questions

- i. What are the socio-demographic characteristics of the residents in the study area?
- ii. What are the physical characteristics of the housing units in the study area?
- iii. What is the level of residential satisfaction of the residents in the study area?
- iv. What are the factors influencing neighbourhood choice of the residents in the study area?

1.4 Aim and Objectives

1.4.1 Aim

The aim of the study is to assess the level of residential satisfaction as a determinant of neighbourhood choice among residents of public housing estates in Owerri.

1.4.2 Objectives

To achieve this aim, the objectives will be to:

- i. assess the socio-demographic characteristics of the residents in the selected public housing estates
- ii. assess the physical characteristics of the selected public housing estates
- iii. examine the residents satisfaction level in the selected estates
- iv. examine the factors that influence the choice of neighbourhood of the residents in the selected housing estates.

1.5 Scope of the Study

Satisfaction with residential environment is a global issue (Jiboye, 2010). For the purpose of comprehensiveness, this research is delimited to assessing occupants' level of satisfaction with the indicators of neighbourhood choice in some selected public housing estates in Owerri, Imo State.

The subject scope of the study includes the nineteen public housing estates in Owerri which cut across three Local Government Areas namely: Owerri Municipal, Owerri West and Owerri North Local Government Areas of Imo State owned by both Federal and State governments. The five Federal housing estates include the following: Federal Housing Estate, Trans-Egbu (Owerri North), Federal Housing Estate, Uratta (Owerri North), Federal Housing Estate Egbeada (Owerri North), Federal Housing Estate, Umuguma (Owerri West) and Federal Housing Estate, Naze (Owerri West). The fourteen (14) State Housing Estates include the following: Umaguma State Housing Estate (Owerri West), Aladimma Housing Estate Owerri (Owerri Municipal), Redemption Housing Estate, Avu (Owerri West), Uratta East Housing Estate (Owerri North), Uratta West Housing Estate (Owerri North), Ikenegbu Housing Estate (Owerri Municipal), Ikenegbu Extension Housing Estate (Owerri Municipal), Trans-Egbu Housing Estate (Owerri North), Works Layout Housing Estate (Owerri Municipal),

Clerks Quarters Housing Estate (Owerri Municipal), World Bank Housing Estate (Owerri West), Housing Estate (Owerri North), Somachi Housing Estate (Owerri North) and Orji Housing Estate (Owerri North).

The area scope of the study was limited to three public housing estates each owned by both federal and state governments in the Imo state, these include the following; Federal

Housing Estate, Trans-Egbu (Owerri North), Federal Housing Estate, Umuguma (Owerri West) and Federal Housing Estate, Naze (Owerri West) at the federal level while Ikenegbu Housing Estate (Owerri Municipal), Egbeada Housing Estate (Owerri North) and Redemption Housing Estate, Avu (Owerri West) at the state level. Furthermore, the study also covered a comparative analysis to ascertain the satisfaction level with the indicators of neighbourhood choice across the selected public housing estates in Owerri and also highlighted the factors influencing the level of satisfaction and dissatisfaction of the residents in the study area.

The study covered socio-demographic attributes of the occupants in the study area which include gender, household size, income, age, marital status and educational status. The intention was to show how these attributes serves as predictors of housing satisfaction in Owerri, Imo State, Nigeria.

1.6 Hypothesis

H₀ = There is no statistically significant difference in the level of residential satisfaction in the federal and state housing estates in Owerri

H₁ = There is statistically significant difference in the level of residential satisfaction in the federal and state housing estates in Owerri

1.7 Justification for the Study

Although numerous researches such as Yu (2009) and Jiboye (2012) have been

conducted to examine the degree of residential satisfaction, notwithstanding, the relative high level of demographic change, housing demand and residents satisfaction with neighbourhood choice have not been comprehensively measured in Eastern Nigeria and Owerri in particular, thereby creating a scenario where housing provision does not meet the expectations of the occupants. However, as Kehinde *et al.* (2014) rightly observed, the level of users' satisfaction with housing is what differentiates it from mere shelter. Nevertheless, little consideration has been accorded to the actual predictors of neighbourhood choice by many researchers in appraising the level of occupants' satisfaction especially in the south-eastern part of Nigeria where this research will be carried out.

In view of these available facts, this study covered this identified gaps by considering these neglected aspects to appraise the extent of residential satisfaction of the inhabitants in the selected public housing estates of interest in Owerri with a view to contributing to knowledge in the housing development sector in Nigeria. Similarly, this study will contribute to knowledge in the housing development sector in Nigeria towards helping the public housing development agencies such as the Federal Housing Corporation (FHC),

Imo State Housing Corporation (ISHC) and Owerri Capital Development Authority (OCDA) in the development of qualitative housing environment that satisfies the expectations of the end-users of the housing units. This will ensure that the occupants of public housing estates in Owerri are relatively contented with the neighbourhood and the housing environment they occupy. Furthermore, the result of this study helped to enlighten the intending occupants of public housing estates in relation to the situation of neighbourhood and public housing in Owerri. It will be a useful template for government and private developers on residents perception of mass housing and the actual performance of mass housing in the case study. Finally, this research constitutes a reference material

for researchers interested in measuring and assessing the degree of housing satisfaction in eastern Nigeria.

1.8 The Study Area

The research focuses on Owerri which is the administrative centre of Imo State, Nigeria, located at the middle of Igbo land. It is the major city in the state, followed by Orlu and Okigwe respectively. Owerri comprises of Owerri West, Owerri North and Owerri

Municipal Local Government Areas. Owerri has an estimated population of about 1,401,873 as at 2006, National Population Commission (NPC), 2006 and it is bounded by Otamiri River and the Nworie River to the eastern and southern part (Alex., 2008). Owerri is located on Latitude 5.476310 and Longitude 7.025853 and it is situated at 73 meters above sea level.

The slogan is Heartland and at present it can be considered as the activity centre of Nigeria as a result of its elevated concentration of large and exotic hotels, high assembly of musical studios and quality recreational areas for leisure. Owerri is among the three most active capital of defunct Biafra Republic since 1969 till date. Presently, Owerri holds some statuary which reflects some of the activities that took place during the world war, predominantly in the areas that suffered intense bombing, although several war relics and historical events are situated in the museum at Umuahia, Abia State.

Owerri has an average temperature is 26.4 °C.

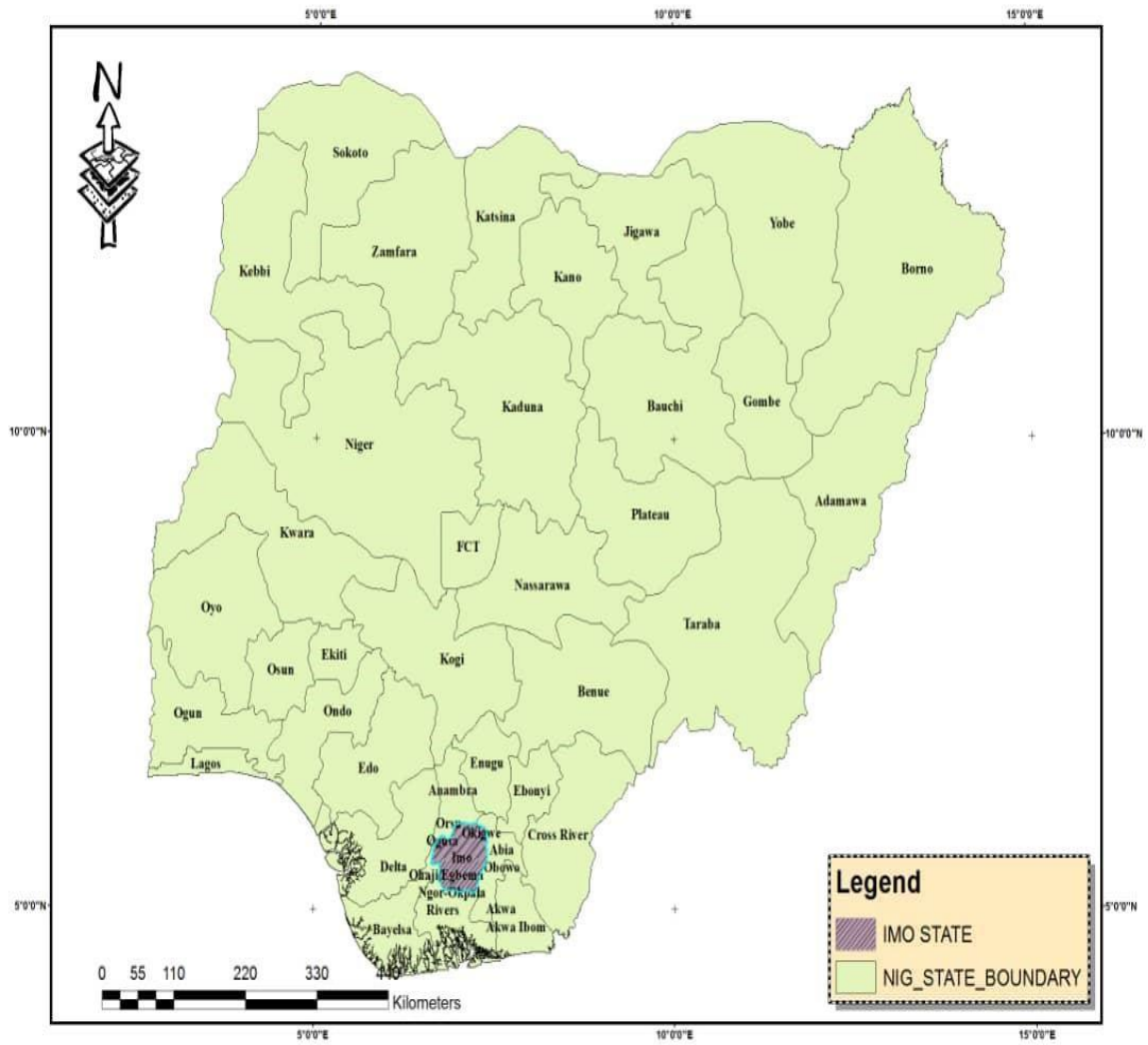


Figure 1.1: Location of Owerri in a National context

Source: Grid 3 De Royals Geospatial (2020)

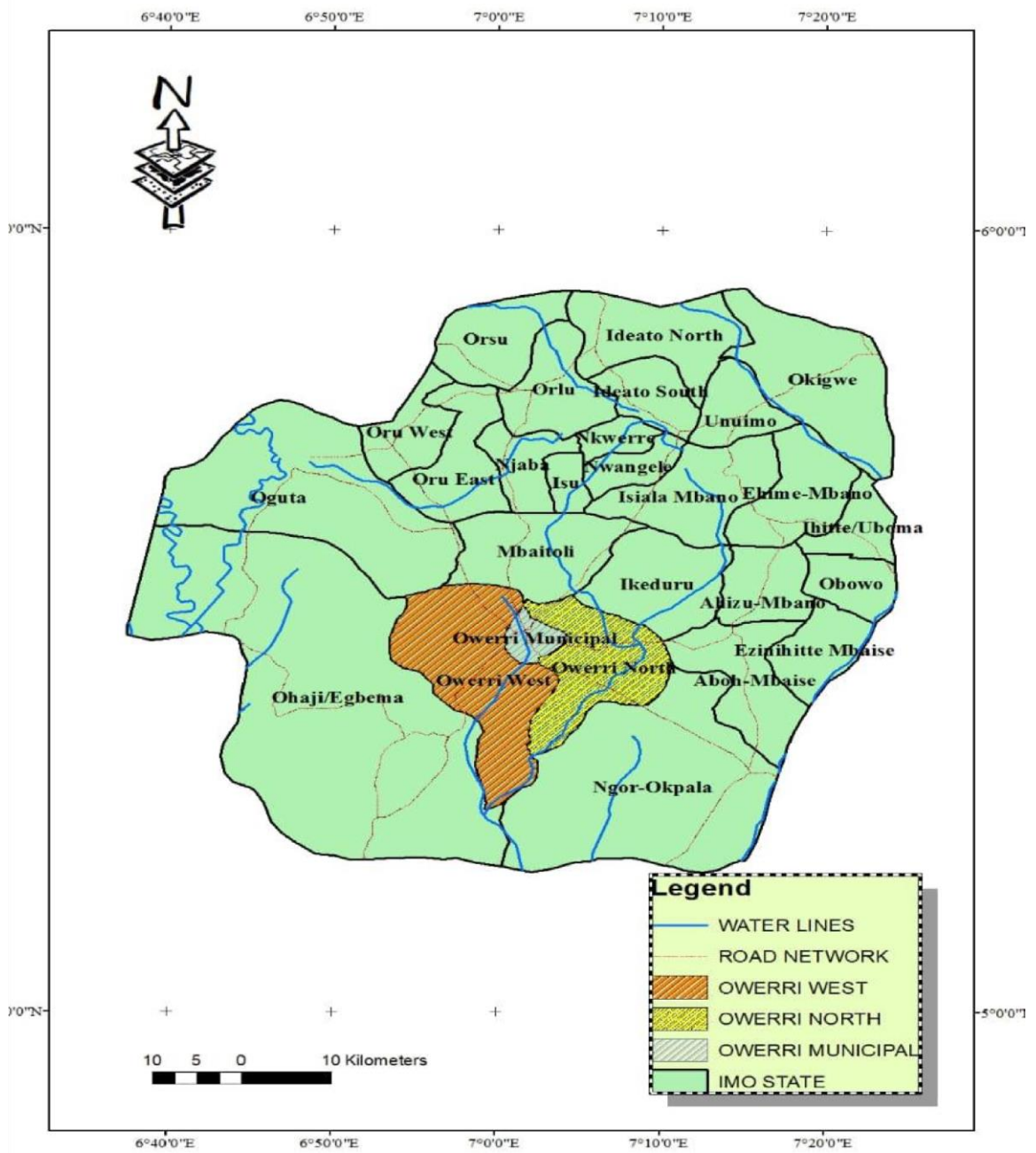


Figure 1.2: Location of the study area in a state context

Source: Grid 3 De Royals Geospatial (2020)

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Concept of satisfaction

Researchers such as Olotuah (2006) and Salleh (2008) sees the term satisfaction as a variety that meets the essential needs and aspirations of the people while other scholars look at it as a remedy to emotional affections, behavioural standards which are aimed at achieving a set goal, Potter and Cantarero (2006), indicated that satisfaction is a subjective reaction to an objective surroundings. However, Eyles and Wilson (2005) also noted that satisfaction is usually measured as an important indicator that detects the value and worth of life and well-being of individuals at a particular point in time. Amerigo (2002) sees satisfaction as a function of desire derived from a contented encounter within an environment. Ibem and Amole (2012) suggested that if the attitude of the residents towards their environment is constructive and their level of contentment is high, their behaviour will be beneficial to the community as a whole. The level of satisfaction of most residents can also be alleged as a measure of the level at which current end-users of the housing units accomplishes all their desires, aspirations and prospects (Salleh, 2008).

The right of all inhabitants to housing is significant in terms of delivery of safety, privacy, community relations, collective amenities and infrastructure within the environment. Reasonable housing with adequate and functional facilities and amenities are seen as some of the indicators of individuals' well-being in the society (Olotuah, 2006). The satisfaction level of all residents is considered as an index that helps to evaluate housing because of its portray general level of success, effectiveness of users cognitive response and also predicts the future environment. It aids towards ascertaining the various factors influencing residential satisfaction and the relationship between several dimensions of the residential surrounding (Eyles and Wilson, 2005). Satisfaction is seen as a process of comparison

between the present and future expectations and usually the most approved depiction of tenant level of satisfaction (Parker and Mathews, 2011).

Singh (2006) perceived that tenant satisfaction has its own positivity in terms of impact on an organization's productivity and educational establishment. It has been observed that satisfying residents needs is not enough but most notably ensure the residents are highly satisfied with the housing units they occupy (Olayiwola, 2003). Sivadass and Baker-Prewitt (2000) opined that satisfaction is reliant on the type of dwelling, environmental influence and positive relations within the residents.

2.1.2 Concept of housing satisfaction

The concept of housing satisfaction tells how end users of a residential housing units responds to the whole components of such housing units as anticipated by the level of perception as a fraction of prediction and the level to which the residents feel comfortable regarding housing, which in turn help towards achieving their goals and aspirations (Jiboye, 2012). It is also seen as a personal assessment of individuals housing environment which focuses to their desires, prospects and successes (Hui and Yu, 2009).

Housing satisfaction indicates the degree of fulfilment felt by an individual within the housing sector with regard to the present housing condition (Djebuarni and Al-Abed, 2000). In order to improve the worth of life of individuals, promote high level of communal participation and social integration of the residents, it is essential to provide adequate, quality and standard urban amenities to the people. However, Ogu (2002) sees residential satisfaction as a conceptual viewpoint that is usually involved to assess occupants level of perceptions and opinions for their dwelling units and immediate surroundings.

Residential satisfaction depends largely on the perceived achievement of the inhabitants of such housing units and also the rate of contentment that is derived from it depends largely on the occupants perception. Kellekci and Berkoz (2006) noted that satisfaction in the housing environment reveals residents intention towards their environment. Ogu (2002) noted that residential satisfaction is seen as an instrument that is employed to assess the level of residents perception regarding their housing units and the entire surrounding. Furthermore, housing satisfaction is determined by a number of components in the system, a good building with requisite facilities and utilities is an important determinant of housing quality and the worth of every dwelling (Westaway, 2006).

Satisfaction concerning neighbourhood choice is achieved when residents have good access to workplace, location, security and nearness to active commercial centres (Hui and Zheng, 2010). Satisfaction towards the management and provision of requisite facilities is seen as the connection between the management and tenants housing satisfaction level (Jaafar *et al.*, 2009). The matters to be adhered to include the quality of services rendered, availability of facilities and prompt actions by the management towards handling and resolving tenants complaints (Hipp, 2009). The satisfaction level that is connected to the availability of utilities in the housing units and its adjoining area in terms of quality which is directly linked to socioeconomic status especially when households occupy a residential housing unit that fits its social status (Frank and Enkawa, 2009). Jiboye (2012) noted that residential satisfaction is associated to how an end user of a housing commodity feels about the constituent of such commodity in response to their potentials. This is seen as the level to which occupants feel that the individual housing units they inhabit helped them to accomplish their goals and also refers to one's assessment of their housing area which is a subjects to their anticipation and accomplishments (Hui and Yu, 2009). Residential satisfaction can be influenced by housing elements which includes demographic attributes, social, physical and psychological attributes (Amole, 2009).

Ibem and Amole (2012) observed that housing satisfaction is a standard value assessment method used to measure qualitative housing units and active facilities. Housing satisfaction helps to stimulate national and economic advancement as an indicator of individual's living standard and place within the society (Jiboye, 2009). However, housing is globally seen as one of the essential component that helps in human survival within the society (Olayiwola, 2003), there is also a strong level of relationship between the condition of housing with physical elements of the inhabitants (Gilbertson *et al.*, 2008). Rapaport (2000) sees housing as a structure where certain system of human activities takes place.

Several factors are related with housing satisfaction which can be classified as physical, social and management factors. The physical factors are directly linked to the physical features of the housing units and its immediate environment, several researches shows that housing satisfaction is related advancement in the level of security and control of the residents (Mohit, Ibrahim and Rashid, 2010). The major concern of the inhabitants of public housing estates in most developing countries is positioned towards adequate maintenance and sanitation of the estate and availability of public transportation while private housing residents are mostly concern about lack of facilities, utilities and services for the handicapped as well as recreational facilities for the aged and children. A dwelling unit can render and provide more level of satisfaction to its occupants if all the facilities are available and adequate and also meets the residents requirements and standard of living. The social indicators are concern with the personal features of the inhabitants who dwell in these housing units as well as their idea about the level of security, crime rate and the environment in general. Studies have also discovered that residential satisfaction is connected with the attributes of the residents and their collective level of income (Frank and Enkawa, 2009).

2.1.3 Concept of neighbourhood choice

Popoola *et al.* (2016) conducted a research on analysis of residents location preferences in the Peri-Urban residential neighbourhoods of Minna, Nigeria where they discovered that several families make choice on their residential location after weighing all issues relating to their socioeconomic and demographic features. The study was aimed at assessing the fundamental and supporting factors influencing residents choice of Peri-

Urban residential neighbourhoods of Minna in Niger State. Among the several PeriUrban neighbourhoods in Minna, six were selected for the study from which 600 households were sampled and the result from the analysis carried out revealed that household income, house rents, nearness to places of work and security were fundamental factors influencing residents decision in the choice of residential site while land rents, presence of infrastructure and ethnic/religious factors are supporting factors. However, results of analysis indicated that there was a discrepancy in the order of the ranking for all the factors across the selected Peri-Urban neighbourhoods in the study area. They therefore recommended that economic empowerment, infrastructure refurbishing and provision, investment in residential housing should be given due consideration for the realization of optimum satisfactions in individual household's choice of residential location in the peripherals.

Idowu *et al.* (2018) carried out a study and looked at factors influencing the decisions of Peri-Urban residents on where they live in Minna, Niger State, Nigeria; where they opined that pursuit for the best housing location has been a protracted problem to the residents of the urban areas. They also discovered that in the developing countries where Nigeria belong, domestic residential choices depends on a variety of housing and its location features, which are reflections of the various household characteristics. The study aimed at examining the factors influencing residents decisions on where to live in the Peri-Urban areas in Minna. The data used were gotten from the Peri-Urban inhabitants through the

administration of questionnaire. Systematic random sampling technique was adopted in the classification of 825 respondents from 14 Peri-Urban neighbourhoods and the data derived from the questionnaire administration were subjected to inferential statistical technique using factor analysis method. The study discovered that homeownership, comfortability and low rent are the major determinants influencing the choice taken by Peri-Urban inhabitants to live in their existing neighbourhoods. It was concluded majority of the residents of the Peri-Urban neighbourhoods were inspired to live in their present residential location mainly because of the comfort they derive from where they lived. It was recommended that serious consideration and attention of the government is required in order to review the obsolete Minna Master Plan and inject life to all the Peri-Urban areas through massive infrastructural development.

Rasheed *et al.* (2019) conducted a study on neighbourhood choice and residential satisfaction in areas where there is violence within the urban environments, where they discovered that a main resultant effect of urban crisis in homogeneous ethnic municipalities nowadays has a high degree of discrimination and segregation along ethnic and religious divides. The study aimed to examine the extent of the disparities in the level of neighbourhood level of satisfaction of the two groups. The researchers used the segregated Jos city of Nigeria as a case study with a view to examine the level of variance in order to know the level of housing satisfaction of occupants whose dominant factor in the choice of neighbourhood in the violence induced segregation areas in the study area. The result of the study depicts that there is no statistically significant difference between the level of neighbourhood satisfaction of the residents who live in their present neighbourhoods due to the incident of segregation and those who independently choose their housing units on the ground of non-segregation. The study therefore recommended that policy structure and planning, strategies of design and programmes should be employed by the government at all levels for improvement in the level of neighbourhood satisfaction of residents, especially in violence induced towns regardless of the indicators that influences their choice of such neighbourhoods.

Oladapo *et al.* (2019) conducted a research on factors that influences tenants choice of location of residence in Bosso local municipality, Minna, Nigeria, they opined that the location and choice of residential areas is regarded as the key to urban development in most cities and towns, especially in developing countries. The study aimed at investigating the predictors influencing the choice of residential areas by tenants in the study area with a view to establish the parts played by different housing elements. Factor analysis was used to decrease the variety of housing indices to smaller set of prevailing components and the result derived from the study revealed that the prime constituent in the determination of housing location of tenants is dwelling features comprising of the number of toilets and bathrooms, the other basic component comprises of circulation features which plays a major role with nearness to both primary and secondary schools in the study area. It was recommended that asset and titleholders should react to the needs of tenants by consideration the delivery of the right fraction regarding the number of bathrooms and toilets. Also, urban planners and policymakers should professionally and efficiently apportion educational land uses such as schools and other higher institutions of learning across all the neighbourhoods in the study area.

Rashid *et al.* (2013) conducted a study on the choice of neighbourhood factors and residents satisfaction in old and new neighbourhoods of Slemani City, Kurdistan-Iraq in the study, they outlined that the fright about the value of life in urban areas has attracted much attention among the urban policymakers and town planners on how to weigh those indices that influences neighbourhood satisfaction among the inhabitants. The study aims to investigate the sensitivity of residential environmental satisfaction in the study area. A household survey was conducted and two hundred respondents were sampled randomly in each of the neighbourhoods. Spearman rank correlation technique was adopted to test the relationship between some of the neighbourhoods with the degree of housing satisfaction of the residents. From the findings, it was revealed that the residents choice of

neighbourhood in respect of security, availability of facilities and interaction within the environment was strongly connected to their degree of neighbourhood satisfaction. This therefore indicates that qualitative social and physical environment has a role to perform towards the choice of a specific neighbourhood. The study recommends that there is need for the urban policy makers and town planners to improve most of the infrastructures especially road network system, markets, schools and residential structures in the ancient neighbourhood to ensure that the well-being and satisfaction of the residents are adequately met.

Hedman *et al.* (2011) conducted a research on neighbourhood choice, reproduction, environment and planning where they discovered that although there is an idea about why different families prefer certain dwellings units but relatively small about the instruments behind their choice of neighbourhoods, they also opined that several studies on neighbourhood choice only focus on poverty, location, security and ethnicity as indicators. Their study argues that the choice of neighbourhoods has numerous attributes and models which should take several dimensions into consideration at all times. They proposed the use of a model known as conditional logit model because from this approach, a concept can be gained into the activities of individuals and neighbourhood attributes which makes residents choose a particular neighbourhood over others. The study shows that categorization of a neighbourhood is a highly organized process where several households are likely to select neighbourhoods where the residents matches it with their own attributes. It was also revealed that income is the most significant determinant, although socio-demographic features play important parts as well.

Ubani *et al.* (2017) conducted a survey on determinants of residential neighbourhood choice in Port-Harcourt metropolis, the study aimed at examining the relationship that existed between the socioeconomic status of the residents and the factors they consider in

making their residential location choice in Port-Harcourt metropolis. The objectives of the study include to determine the factors influencing residential location decision, determine the major factors that determine residential location decision in the study area and evaluate the relationship between these factors and socio-economic characteristics. The study considered pull and push factors responsible for the choice of neighbourhood and discovered that purchase, crime, insecurity, increase in income status, high rent and availability of infrastructure are among the major push factors of residential location decision and choice in the study area, while security, income, power and water supply, size of dwelling, social status are among the most significant pull factors in the study area. The study therefore recommended that to minimize residential movement, neighbourhoods must be provided with adequate infrastructure and services and since there is difference in the densities of both the push and pull factors, Town Planners should consider the features for each density while planning a new residential area and finally, there is need to review the current planning schemes with the aim of punishing land uses contraveners.

2.2 Global Trends in Housing Satisfaction Studies

2.2.1 Housing satisfaction in developed countries

Duruzoechi (2015) carried out a study on living condition as a determinant of the aged housing satisfaction. The study was aimed at examining how objective and subjective determinants of living conditions help in shaping the idea of older Europeans regarding the availability and residential location. Data were collected from the wave of 2007 and the European Union Statistics on income, living and environmental conditions survey, the residential features surveyed were deduced using the principal component analysis and the resultant indicators and other control variables such as income, age, gender, health and educational status, the evaluation was done using multiple linear regression analysis to determine their relationship with either high or low level of residential satisfaction. Their findings show that there is strong assessment by older Europeans regarding their

environment, main geographical and domestic income variation existed in the indicators that described the level of residential satisfaction. The study therefore recommended that the various factors related with residential satisfaction in different households, income and groups will facilitate the developmental policies that will help in making a functional, viable and suitable alternative for the older Europeans in the study area.

Adriaanse (2007) conducted a survey on measuring residential satisfaction using residential environmental satisfaction scale. The aim of the study was to introduce a more comprehensive method in measuring residential and environmental satisfaction. The study sees residential environmental satisfaction as a universal attitude of households towards their dwelling units and the inner neighbourhood reputation. The researcher makes use of various spheres of residential environmental satisfaction which were examined empirically using multivariate analysis. The data required for the study were drawn from the housing demand survey. An exploratory factor analysis was conducted and the outcome gave an empirical backing for the worthiness of the anticipated models of housing environmental satisfaction. The study recommends that housing environment should be given more consideration and attention by both public and private sector in order to achieve functionality.

Thomsen and Elkemo (2010) carried out a study on the aspects of students housing satisfaction, the study aims at attaining a better understanding on the factors that influences housing satisfaction level of students in Trondheim, Norway. The collection of data was carried out through a quantitative survey method which concentrated on the tenancy and ownership type, the major effect of demographic indices, housing location, characteristics and its functional facilities. Their findings discovered that the overall level of housing satisfaction was extremely high, tenancy type and ownership status were some of the important aspects in explaining the variations involved in housing satisfaction, staying

close to the centre of the city was fundamental determinant of housing satisfaction and the quality of all the housing features was necessary for residential satisfaction. The study recommended that students housing should be encouraged across all levels of government around the world.

Jinmyoung *et al.* (2012) conducted a study in order to ascertain the functional ability, neighbourhood assets and housing satisfaction among the elder adults in the United States. Their aim was to discover neighbourhood resources that influence the degree of housing satisfaction of the elderly in the study area. Their study looked at 10,146 members from the 2009 panel of the American Housing Survey who were above 65 years of age. Ranked regression modelling was done in order to examine perceptions of elderly regarding neighbourhood resources and subsequently the role that these resources play in determining the residential satisfaction level among community dwellers. The findings show that several differences existed in the level of housing satisfaction by residents and its physical functionality in the study area. Subjective assessment of neighbourhoods and the nearness to the surrounding were strong indicators of housing satisfaction. The study therefore recommends that all the professionals in the housing sector need to consider the role of helpful neighbourhoods and social environments in encouraging successful aging particularly for the elderly across board.

Elsinga and Hoekstra (2005) directed their study on home ownership and housing satisfaction. They indicated that home ownership is stimulated by the government because of its positivism and constructive impact in the entire society. Furthermore, they suggested that home ownership is presumed to be selected over renting, because it offers maximum level of security and freedom, therefore expose and increases one level of housing satisfaction. Several scholars have objected the alleged quality of home ownership and the impacts attributed to it, and they observed that the availability of a well-developed rental sector, the process of renting will therefore be seen as sufficient, standard and acceptable

to homeownership. This idea can also be questioned on whether the theory can be confirmed for Southern Europe, where homeownership is seen as part of tradition of the people and not a choice. Their impression on ownership is a natural desire which is to benefit individuals and the entire society. The result of the study indicates that homeowners in 7 out of 8 countries expressed extreme level of satisfaction with their housing condition than tenants. It was discovered that only in Austria do homeowners and tenants exhibit a similar level of housing satisfaction. The study recommends that homeownership and tenure security should be encouraged in order to increase the satisfaction level of the residents across board.

Hwang and Ziebarth (2006) carried out a study on the impacts of residential environments on housing satisfaction among Korean American elders. The study was aimed at reducing the space between increased varieties among the aged in the study area, 177 Korean American senior citizens were partakers in this study. Quantitative data were collected using a self-administered questionnaire. Descriptive statistics was used to calculate the socio-demographic and housing features for the sample population and an ordinal regression model was used to analysed to solve the research objectives. The study therefore recommended and strongly supports community participation at the neighbourhood level to achieve functionality in the study area.

Lee and Parrott (2004) conducted a study on the heterogeneity of culture as a major issue in many societies. The study aims to examine the relationship between cultural heritage of the residents and the level of housing satisfaction. Studies around the world have been carried out to investigate the relationships between the differences in culture, housing and preference in the level of residential satisfaction. An online survey was administered to Virginia Tech students living in different apartments and the respondents were grouped according to their nationality. The findings show that nationality was a strong indicator of

residential satisfaction with eleven different active housing features and some variation were discovered regarding the level of satisfaction of respondents in the various national groups. The study therefore recommends that culture should be regarded as a significant indicator of residential satisfaction all over the world.

2.2.2 Housing satisfaction in developing countries

Afona (2006) conducted a research on the use of residents satisfaction index in renewal of selective urban centres in residential areas of most under developed countries. The study was aimed at assessing the application of residents satisfaction index in the urban centre. The data were gathered through the administration of well-structured and organized questionnaire using stratified random sampling technique. Actual Aspiration Index and Residential Satisfaction Index were used to measure the significant level placed by inhabitants on diverse facilities for each of the twenty objectives and environmental features adopted for the study. The findings revealed that the facility with the highest AAI was availability of water supply which accounts for (4.88%) while nearness to religious centre had the lowest AAI representing (3.59%). The average Actual Aspiration Index for all the known facilities in the area has an index of (4.47). The study recommends that peculiarity should be accorded strictly on the supply of adequate and functional facilities and amenities related to the variables with higher AAI but lower RSI, because of the reasons accounting for residents expressing low AAI and RSI on one or same set of compact and delicate amenities should be known and taken care of at the same time.

Mohit and Nazyddah (2011) conducted a study on social housing and housing satisfaction programme in Selangor Zakat board of Malaysia, they indicated that social housing in Malaysia is delivered by a collaborative effort of both public and private sectors. The study evaluates the social housing programmes using the housing satisfaction model presently used as a device for customer satisfaction. The study aimed at identifying the forms of housing programmes and examining the beneficiaries of housing satisfaction on various programmes based on a comparative plane, a five

point Likert scale was used to measure the degree of satisfaction and the findings of the research shows that the inhabitants of public low-cost housing in Malaysia expressed extreme level of residential satisfaction with the work carried out by the workers of the city hall and a larger proportion of the residents felt extremely dissatisfied with the components of the housing units they occupy. The study recommends that more attention should be accorded to public housing by all levels for efficiency and effectiveness.

Aulia and Ismail (2013) conducted a survey on residential satisfaction of middle income earners in Medan city. The study was aimed at assessing the degree of residential satisfaction of the middle income earners in Medan city and the objectives of the research were to ascertain the standard of residential satisfaction and also ascertain the anticipated housing standard required in the planning of the housing area. The study was carried out using a cross sectional survey method. The study discovered that design, location and availability of facilities were some of the physical satisfaction measures while level of security; social interaction and housing tenureship were the non-physical satisfaction measures. The outcome of their study revealed that the idea of the residents of the residential environment were influenced by socioeconomic heritage, occupation status and type and location of dwelling units. It was recommended that the government and other agencies should give priority to the middle income earners in the society for economic development.

Kellekcı and Berkoz (2006) conducted a study on user satisfaction in housing and its environment in Istanbul, Turkey. They suggested that peoples view on residential areas and the social and physical attributes of the environment were influenced by quality of life of individuals and other positive demands. The study aims at testing the physical and social features of individual user contentment in housing, aesthetics and environmental quality.

Linear regression analysis was adapted to measure whether there are any discrepancies between the indicators determining housing satisfaction with a residential environment in accordance with socio-demographic attributes of the users and also to determine the discrepancies that exist, if any, considering all the attributes that influence housing and quality of the environment and its satisfaction level. The analysis shows that new idea had been discovered through the identification of these factors and indicators of user satisfaction in housing and the quality of the environment. It was discovered that the elements that increases the level of housing satisfaction differ according to the socio-demographic characteristics of the end users. The study recommends that government at all levels and other non-governmental organization should be fully engaged in the development of mass housing to serve the entire public and also device means of effective housing delivery.

Kahraman (2013) carried out a research on dimensions of housing satisfaction: A case study based on perceptions of rural migrants living in Dikmen. The study aims to investigate the dimensions of housing satisfaction from the point of rural dwellers. He focused on the physical, social and economic dimension as correlates of housing satisfaction. Data was collected by the use of questionnaire administration and short interviews. The data analysis process includes assessment of perceptual attributes based on housing satisfaction, grouping of perceptual features as attributes of housing satisfaction. The study discovered that the concept of housing satisfaction is multidimensional in nature which includes economic, physical and social dimensions. The study concluded that residential satisfaction is a multidimensional idea in which the inhabitants determine the perception. He recommended that all the experts in the built environment can use the perceptions housing satisfaction of rural migrants to create a more sensitive and liveable housing environment and decision makers in the housing sector may assess social and economic dimensions of housing satisfaction embedded in this study for optimum level of residential satisfaction.

Ruo Chen *et al.* (2018) carried out a study to assess the residential satisfaction and influence mechanism in Jinan City, 303 survey questionnaires were used by means of quota sampling which was performed in five districts in the study area. They adopted five factors responsible for residential satisfaction in the study area, these include: physical condition of the housing, public utilities, location and property service. Among these components, public facilities like hospitals, schools and markets are the major factors affecting residential satisfaction in the study area. Multiple linear regression model of residential satisfaction was adopted and an elaborate mechanism of the impact of these factors on residential satisfaction, this presents a robust relationship status between residential satisfaction and the related controlling factors. Descriptive statistics and correlation analysis was adopted and applied to ascertain the impact of real estate group on residential satisfaction. Their findings revealed that the rate of residential satisfaction varies from region to region, the southern and eastern regions express high level of residential satisfaction in Jinan City. The differences in the level of consumer satisfaction is distinct and clear resulting from physical condition of the houses, public facilities, property service and location. The study recommended that improvement should be made on the residential housing units to uphold the level of satisfaction and commitment, housing developers must meet the needs and aspirations of all consumers, quality building is the prime choice of an estate enterprises and the supervision should be strengthened by the government regarding real estate development.

Fang (2006) carried out a study on residential satisfaction, willingness to move and behaviours in redeveloped neighbourhoods in inner city Beijing. The study looks at housing satisfaction among the first inhabitants in the redeveloped inner city in the study area. Questionnaire survey was used to collect data in the four neighbourhoods redeveloped neighbourhoods at different periods and intervals for the past fifteen years.

The study revealed that low level of housing satisfaction doesn't lead to regular moving behaviours despite the high intentions. Residential satisfaction decides housing modification and adequate accessibility, which also form the base and standard for public intervention and participation. It presumes that occupants level of accessibility will be relatively unhindered by some indicators other than financial ability of the residents. Most of the residents in the study showed an absence of ability to change the need for decent housing although they had strong and positive intentions. The study therefore recommends that there is a pressing need for an investigation into households' housing preferences and moving intentions for optimum level of satisfaction.

Lee and Park (2011) conducted a study on exploring the effects of housing shortfall on housing satisfaction for temporary Korean migrants where they explain that housing shortfall affects the satisfaction level which can lead to housing modification behaviour. They opined that high level of housing satisfaction has great impacts of household characteristics and housing shortfall on housing satisfaction. The study used a convenience sampling method where most of the respondents were professors, students, visiting intellectuals. The result of the study revealed that the quality and neighbourhood shortfall forecasted housing satisfaction most stronger, which suggest that the quality of physical housing and neighbourhood conditions were crucial in determining the level of housing satisfaction of temporary migrants, furthermore, most of the socio-demographic household features did not predict the level of housing satisfaction. The study recommends the availability of residential housing through the construction of mass housing in both public and private sector.

Zahari *et al.* (2016) carried out a study on empirical measurement and investigation of customer satisfaction on housing projects. The study aimed at determining the influence of price, project location and housing characteristic on customer satisfaction. Furthermore,

most of the developers were not aware of the expectations of the house buyers. Although they intend to provide good service and quality products, they fall short simply because of inaccuracy and good understanding on the expectations of the customers; hence, knowing customer expectations is very important and also improves the performance of the developers. The result of the revealed shows that there was a strong and positive relationship between price, location, housing attributes and house buyer's level of satisfaction. Thus, the outcome of this study can be used by developers towards improving their weaknesses and increasing the strength of the company which will in turn increase the number of sales. The results show that customer satisfaction has brought a big influence to the success of an organization, this would potentially make way for private housing developers to know the indicators that would increase the level of customer satisfaction in the public housing market. Expectantly, this study can help the buyer to achieve their need to buy the house especially for those who have low income. The study recommends a guideline to housing developers to improve their efforts to balance between demand and supply by determining the relationship between rent, price, location and housing characteristics on customer satisfaction.

Mohit *et al.* (2010) conducted a study on assessment of residential satisfaction in newly designed public low cost housing in Kuala Lumpur, Malaysia. The study aimed at examining the components that influences the general level of satisfaction in the study area. The study provides an evaluation of housing satisfaction of newly planned and designed public low cost housing of residents in the study area with forty-five indicators grouped into five components which include the following: dwelling unit features; dwelling unit support service; public facilities, social environment and neighbourhood facilities and utilities. The findings revealed that the residents expressed a moderate level of satisfaction with their dwelling units, strictly followed by neighbourhood facilities than the features of dwelling units and social environment. Socio-demographic characteristics

of the residents such as age, income and household size of previous residence were negatively correlated with residential satisfaction while the race of the residents, type of employment, floor level and length of residency were positively correlated with housing satisfaction, from the socioeconomic, it was discovered that the size of current low-cost housing units does not satisfy the needs of 29.4% residents with large families and high occupancy ratio. The study recommends that government agencies responsible for the development of low-cost housing units should pay appropriate attention to the management and provision of public facilities in order to achieve maximum level of residential satisfaction among the residents and also take good policy strategies that will build different sizes of housing units which will in turn meet the needs of the residents with large household size in order to enhance quality of life of the low income group in the urban areas.

Mohit and Nazyddah (2011) undertook a study on social housing programme of Selangor Zakat Board of Malaysia and housing satisfaction. The social housing in the study area is provided through both public and private sectors. The study aims at identifying the types of housing programmes adopted by Selangor Zakat Board. They indicated that the Selangor Zakat Board started providing social housing since 2007 and 906 housing units have been delivered to the people since inception under different programmes carried out. The study appraised the different programmes rendered by adopting a housing satisfaction model which is presently used as a tool for customer satisfaction for public and private housing sectors in several local government areas in UK and USA respectively. Their research findings indicate that SZB has always been prospering in the provision housing units that attract a moderate level of satisfaction. The study recommends an improvement in all existing social housing programmes at all tiers of government and the private sector.

Hashim (2003) conducted a research in Malaysia on residential satisfaction and social integration in public low cost housing. The study aims to examine the level of social

relation existing between social unity and residential satisfaction of residents in the study area. In the study, two urban and rural areas each in Selangor were chosen and this had 472 respondents, 58% were from Malay, 22% were Chinese and 20% were Indians by nationality. It was discovered from the study that elements such as physical structures of the housing units and deprived social and physical environments could have an impact on the social unity in the neighbourhood. Conclusively, the study revealed that age, ethnicity, security, location, residential affection and housing satisfaction were major predictors of social unity in the study area. It was recommended that properly planned residential housing should satisfy the residential needs of its residents which will in turn can help to foster the process of socialization.

Teck-Hong (2012) carried out a study on housing satisfaction in medium and high cost housing in Greater Kuala Lumpur, Malaysia, the aim of the study was to evaluate the satisfaction level of the people in the study area. Socio-demographic predictors were found to be significant in the satisfaction level of the residents. Data for the study were acquired through an exploratory factor and reliability analysis and the results were obtained from a confirmatory factor analysis which subsequently led to the construction of complex indices of home ownership and housing satisfaction. The findings revealed that households can only express a high level of residential satisfaction only if they were given opportunity to acquire their own residences using the build and sell method, in this regard, the level of residential satisfaction may depend on ownership status and families are expected to get as outlined by local amenities, social capital investment and neighbourhood stability of the home-ownership. The study recommends that in order to achieve sustenance in the housing sector, private housing developers should moderate the kind of activities they do in order to suit the different needs of several households' by examining factors that account for either housing satisfaction and dissatisfaction respectively.

2.2.3 Housing satisfaction in Nigeria

Amole (2009) conducted a study on residential satisfaction in students housing. The study aims to examine how students were satisfied and also determine the elements that predicts residential satisfaction in the study area. The study intends to look morphological shapes of the halls of residence as determinants of residential satisfaction. The variables used for the research comprises of both objective or physical variables which includes the morphological shape of the hall, occupancy ratio, presence / absence of in house library, kitchen and a balcony, while the subjectively it will look at the attitudes of the residents regarding comfortability, bedroom furnishing, occupancy ratio in the bedroom, privacy, sanitary facilities, kitchenette, design of the hall, location, these was achieved using a 5point Likert scale. Structured questionnaire was used in the collection of data which was distributed to a sample population of 1124 from four selected Universities in South Western Nigeria. The data was analysed using factor analysis and categorical regression models. The findings revealed that (53%) of the residents express extreme level of dissatisfaction with the residential housing units they occupy and the elements which explained residential satisfaction were the social qualities of all the residences, kitchenette, bathroom, toilets, storage facilities and demographic indicators. The morphological formation of the halls was discovered to be a strong determinant of residential satisfaction and the features which appear to be most significant were the form of the plan and length of the corridor is in good shape. The study recommends an improvement in the development of students housing in both federal and state institutions by the government and public sector through public private partnership.

Waziri *et al.* (2014) conducted a study on occupants housing satisfaction were they looked at age as an indicator of residential satisfaction. The study aims at determining the effects of age group on the general level of housing satisfaction of the residents with respect to privately owned housing units in the study area. The following objectives were formulated

to help achieve the aim; to ascertain how different age bracket responds to housing desires in private housing estate development and to assess whether age is a significant indicator of housing satisfaction.

Rosenberg and Everitt (2001) suggested that housing is the second most essential requirement for the elderly apart from food, clothing, health and finances, less interest is given to the aspect of ageing in the research community (Sivam and Karuppanan, 2007). Descriptive statistics and one-way analysis of variance was adopted for the analysis. The result of the findings shows that it is important to include specific demographic elements such as age groups in residential housing development in both public and private housing sectors and also make efficient and functional policy plans especially in developing countries. It recommended that more efforts should be put in place towards involvement of the private sector in housing development because it has the financial capacity, ability and technical know-how to provide satisfactory housing units if most of the factors influencing housing satisfaction are incorporate into the planning, policy making and implementation.

Ugonma and Njike (2017) conducted a study at Enugu on the indicators housing satisfaction in public housing estates, they highlighted that majority of the public housing estates in Enugu were occupied by different category of persons and the inhabitants have different perception concerning the satisfaction level which is derived from the qualitative aspect of the housing units. The study was aimed at examining the factors influencing tenants' level of residential satisfaction with their housing units with a view to proffer more options for better housing delivery. The sources of data were from both primary and secondary sources and both stratified and systematic sampling technique were used in the collection of data. Principal Component Analysis was used to show the major elements that influence occupants level of satisfaction. These include estate management, proximity

to active facilities, appearance of buildings, adequacy of facilities, utilities and services and also number of rooms in each housing unit. The study classified and identified the factors that influence residents satisfaction level with the housing units into five components to include the following: management of the estate (2.49), proximity to active facilities (1.3), appearance of buildings (1.63), adequacy of facilities, utilities and services (1.23) and a number of rooms in each housing unit (1.06) were the major indicators that influence the level of tenants satisfaction within the housing estates. The study recommends that State Housing Corporations and other private estate developers in the state should consider these variables when coming up with housing estates in the state in order to achieve efficiency and functionality.

Makinde (2014) conducted a study on the strength of socio-cultural experiences on the satisfaction level of the residents in Ikorodu low cost housing estate in Lagos State. The aim of the study was to examine the strength of socio cultural experiences on residents housing satisfaction in the study area. Jiboye (2008) opined that the maximum level of satisfaction achieved by residents of specific housing units is an output on the level to which they feel in compliance with their socio cultural heritage. The data were collected with the use of a structured questionnaire and the result of the study shows that the numbers of the housing units in the study area were 119, this comprises of 106 bungalows and 13 story buildings respectively. The entire estate was stratified into two major zones which include story buildings and bungalow buildings, with the use of systematic sampling technique, one out of every two houses was selected for interview in both zones. An interview was conducted to 106 residents occupying the bungalow and 20 residents occupying the story buildings which sum up to 126 residents that were selected for the interview. The study discovered that most of the residents were fairly satisfied with the elements of the environment, the dissatisfaction was from the physical, behavioural, economic and functional elements which constitute the qualitative performance and maintenance criteria of their housing units. The

study therefore proffered recommendations that will guide policy makers towards making decision regarding housing and welfare of the people which includes local participatory approach in the delivery of affordable housing units, the use of local building materials and effective site and services scheme across board.

Kehinde *et al.* (2014) conducted a study on residents satisfaction in public estates in Osogbo, Nigeria. The aim of the study was to assess the residents level of satisfaction with a view to propose strategies to improve on the quality of life of the residents having examine the condition of the housing and availability of existing infrastructure. Housing also has great impacts on welfare, health, economic productivity and social attitudes of individuals and the nation at large, thus becoming the concerns of both individuals and governments in all ramification (Abiodun and Segun, 2005). The socio-economic attributes of the residents and neighbourhood qualities were obtained from the six selected public housing estates using structured questionnaire administered on 312 households in the study. The study revealed that the whole study area has poor and adequate infrastructure because only 56.6% of anticipated infrastructures were found in one of the housing estates. The study recommends an improvement in the provision of requisite infrastructure through the involvement of public and private sector initiative and the use of qualitative materials for building in order to improve the quality of the housing units and the entire environment. The condition of housing in Nigeria is well known by some abnormalities, which are of either natural quality or quantity, National Housing Population (NHP), 1991. It has been argued that the quantitative aspect of the residential problems could be addressed by raising the number of obtainable housing units while the qualitative abnormalities are massive and composite in nature (Oladapo, 2006). Ozdemir (2002), as cited in Oladapo (2006) measured and looks at the aspect of qualitative setback as the foremost problem of municipal housing development in Nigeria.

Dimuna and Olotuah (2019) conducted a study on the assessment of residents satisfaction level with planning and neighbourhood facilities of some selected public housing estates in Benin City, Nigeria. The study aims at assessing the level of residents satisfaction level with planning and neighbourhood facilities, utilities and services and also to achieve the aim, the objective was formulated; to evaluate the residents perception in the selected housing estates. Data for the study were collected from the six housing estates by administering a total of 1200 questionnaires. Descriptive statistical tools such as mean, standard deviation and categorical regression analysis were employed for the analysis. The result of the study revealed that the Relative Satisfaction Index scores for all the estates was fair in terms of satisfaction. The study recommends that there is need for government and policy makers to encourage and improve a decent living environment in terms of planning of public housing estates.

Jiboye (2014) carried out a study on the socio-economic features and satisfaction of tenants in public housing in Lagos, Nigeria. The study aims to examine the social relations between the socio-demographic features of the residents in the public housing and the level of residential satisfaction in Lagos. According to Fleury-Bahi *et al.* (2008), occupants satisfaction is strongly associated with one's feelings to the living space and is associated to the value of the residential space. A survey of six randomly selected housing estates was carried out in the study area. Systematic sampling technique was used and 10% of the housing units (1022 households) were sampled. The data were analysed by simple descriptive statistics and Pearson correlation coefficients. The result of the study showed that age, education, income, marital status, occupation and household size correlated significantly with tenants' housing satisfaction in the study area. It also showed that other socioeconomic variables such as sex, religion and ethnic origin of the respondents are not significantly correlated with housing satisfaction. The study then recommends that

policymakers on public housing should consider the persons socio- economic parameters whenever they are planning for new housing estates.

Emmanuel (2019) conducted a study on housing satisfaction of the urban poor in metropolitan areas, a case study of Calabar, Nigeria. They opined that urban areas in Nigeria, policy and decision makers in the housing sector thinks that any housing unit that meets the needs of the poor persons living in the urban areas without due consideration to the indicators of environmental quality should be discouraged. The researchers used cross sectional survey of 250 household heads drawn from the 11 wards in the study area which cut across different strata. Stratified sampling technique was adopted to collect data based on the number of wards in the study area. Findings from their study revealed that the urban poor express a low level of residential satisfaction with inequality existing between different subgroups. The study recommended that experts in the housing industry in Nigeria need to recap the ancient housing system and include standard housing needs to include (provision of adequate and functional infrastructure and amenities) of the helpless persons in the urban area that have been forgotten over the years in order to integrated housing developmental framework in Nigeria.

Adeleye (2016) conducted a research that concentrated on assessing tenant level of satisfaction with rental housing units in Ilesa town of Osun State, Nigeria. The aim of the study was to assess the level of tenant satisfaction with rental housing units in Ilesa town of Osun State, Nigeria. Jiboye, (2009) observed that housing is one of the predictors of an individual's standard of living within the society. Housing also has great impact on social interaction and general welfare of an individual or group in any social environment, the availability of clean, affordable and standard housing units has been insufficient especially in developing countries. The data for the study was obtained through primary and secondary sources and the questionnaire was targeted on the residents of rented housing

units and was administered using systematic random sampling technique on every 10th building along the selected streets in the study area. Information on the socioeconomic features of the respondents was obtained, their level of satisfaction with the dwellings units and the factors influencing the level of satisfaction of the residents. Descriptive statistics was used for the analysis and also the use of Residential Satisfaction Index (RSI) in order to determine the level of tenants satisfaction with each of the housing elements identified for the study. The result of the study revealed that most tenants were fairly satisfied with the features of the buildings, quality of the building and neighbourhood relations. The study concludes that rental housing in the study area is confronted with difficulties which bring about the dissatisfaction of the rental housing occupants in the study area. Therefore, the study recommended that all agencies of the government as well as town planners, architects and other professionals within the built environment should be most concern with the situation and proffer strategies that will improve the level and provision of privately rented housing units in the study area.

Ajayi *et al.* (2015) carried out a study on students satisfaction level with hostel facilities in Federal University of Technology, Akure, Nigeria. The study aims to ensure the availability of the functional facilities in the study area with a view to evaluate the level of residential satisfaction of the students'. The students housing is made up of several facilities such as reading room, bathroom, bedroom, toilet, kitchen, recreational area, laundry and access to internet services to further enhance learning. Abramson (2009) opined that students housing can be more interesting and comfortable through the provision of requisite facilities such as mini market, mini shop, car park, bookshop and cafeteria within the confines of the students housing environment. Research o students' housing in Nigeria has received less attention from both the public and private organizations and also the management of the institutions, Ubong (2007) observed that the provision of hostel accommodation has received less attention because of deficiency in maintenance of the facilities and infrastructure within the hostels. Stratified random

sampling technique was adopted for the study in order to reach out to the sampled population who were students in the various hostels on campus. They suggested that availability and functionality of hostel facilities are the main indicators in determining students level of satisfaction. The facilities provided in the hostels were identified and measured using Relative Satisfaction Index. The sample size for the study was 322 students and the study shows that students were grossly dissatisfied with the availability and the level of functionality of some facilities such as laundry, bathroom and toilet facilities due to distance from their respective rooms and the level of hygiene in the study area. The study therefore recommends the provision of more hostel accommodation with better designs and modern facilities through public private partnership in order to meet the needs and aspirations of the growing students' population not only in the study area but in other institutions of learning around the world.

Ado *et al.* (2019) conducted a study on the assessment of housing satisfaction in Police barracks of Gombe State, Nigeria. The study was aimed assessing housing satisfaction in the study area. Quantitative research was carried out for the study through the use of survey design method was used and the sample population dwell within 5655 police officers spread around 23 divisions of the 11 Local Governments Areas in the study area. A multi stage sampling technique was employed in the selection of the respondents and in this case, Police officers. Both descriptive and inferential statistical techniques were employed for the data analysis and the result of the revealed that 13% of the respondents' express high level of satisfaction with the status of the barracks they occupy, 79% felt dissatisfied while 7% felt extremely dissatisfied respectively. Regarding the facilities within the neighbourhood, it was discovered in the study area that 67.1% used rechargeable lamps for lightening while 32.9% used generating sets as a source of energy. The findings however show that most of the residential buildings are in deplorable condition and need urgent government attention to make them habitable. Based on the extreme dissatisfaction

level expressed by the respondents regarding the condition of the barracks in the study area, the study recommends the provision of additional housing units and improvement on the existing ones in order to achieve optimum comfort and satisfaction.

Ayoola *et al.* (2016) conducted a study on assessment of households satisfaction with neighbourhood facilities in some selected residential locations of Minna Urban. The study was aimed at examining the impacts of the neighbourhood facilities on household's satisfaction. The researchers noted that one of the challenges facing the cities of the world particularly in developing economies is unsustainable nature of housing. A systematic random sampling technique was employed in the administration of questionnaires to the household heads in Minna. The result of the study shows the relationship that exists between the satisfaction level of respondents in each of the locations and the neighbourhood facilities in the study area. The study recommends that the facilities within the neighbourhood should be augmented with some of the public facilities and residents should be actively involved in infrastructure development that affect their neighbourhoods because this will in turn improve residential neighbourhood satisfaction by the residents and also enhance property values.

Ruochoen *et al.* (2018) conducted a study on the comparative assessment of residential satisfaction between public and private housing estates in Federal Capital Territory (FCT) Abuja, Nigeria. The study aims at comparing the level of residential satisfaction between private and public housing estates in the study area with a view to examine the residents satisfaction with housing components and examine the residents satisfaction with housing, neighbourhood environment, social, economic and management aspects of housing. The study adopted five dimensions of residential satisfaction to include housing, environmental, social, economic, and management for the study. The quantitative research design approach was adopted where primary data were collected through field survey. The

sample frame for the study is 7943 households within the six selected housing estates, while a sample size of 366 households were arrived at using 95% confidence level. The samples were selected using systematic random sampling technique at an interval of 22 houses. Descriptive and inferential statistical technique was used to analysed the data, the study established that the residents from both the private and public estates expressed a fair level of satisfaction with the residential area. It was also revealed that among the five components of residential satisfaction examined, the residents are only satisfied with the housing components; private and public. The study concluded that, more attention should be paid to the neighbourhoods' environment, social, economic and management components of residential area in order to improve the level of residential satisfaction of the residents. The study recommends that both public and private housing developers should concentrate more on prominent housing features that meets the desire and aspirations of the people when designing mass housing. It was also recommended that the environmental elements such as greenery, landscape pattern, cleanliness and sanitation in the housing estate should not be taken for granted.

Ibem and Aduwo (2013) carried out a study on assessment of residential satisfaction on public housing in Ogun State, Nigeria. This aim of the study was to assess the level of residential satisfaction on public housing in the study area. Questionnaire survey method was used to collect data using the Turnkey Public Private Partnerships, Core Housing and Shell Stage strategies. The data were collected from 452 households and was analysed using both descriptive statistics and categorical regression analysis. The result indicates that the household heads expressed an extremely level of dissatisfaction with the condition of the housing units they occupy but satisfied with the features of the dwelling units than that of neighbourhood facilities. It was also revealed that the satisfaction level was higher among owner occupier than those renting their housing units in the Core and Shell Stage housing units where residents take part in the improvement and development of their

housing units than in the Turnkey and PPP housing units accomplished and acquired. The three most influential indicators of residential satisfaction includes the following; security, sizes of living and management of the housing estates respectively. The study recommends that the quality of life of low and middle income earners in the study area can be upgraded through the provision of basic social amenities in public housing schemes in Nigeria.

2.3 Determinants of Residential Satisfaction

Several researches have been conducted around the world, and these have highlighted some factors considered as determinants of residential satisfaction. According to Mohit *et al.* (2010) dwelling size, dependable structure and cleanliness of the neighbourhood, (Lu, 2002) social and physical relations and culture, (Rapoport, 2000) are perceived as significant determinants of residential satisfaction. Others include family size as opined by Theodori (2001), socio-economic status such as the level of income and employment status (Varady *et al.*, 2001), satisfaction with the physical status of the housing units and managerial work (Varady and Corrozza, 2000), living condition as well as residential movement and willingness to move in the future (Varadi and Corrozza, 2000). Dekker *et al.* (2011) also discovered that the level of education and tenure ship regarding housing are important determinants influences housing satisfaction as owners of properties express extreme level of satisfaction compared to the tenants. The income level of households also serves as a determinant in residential satisfaction of inhabitants (Mohit *et al.*, 2010), discovered that people of different income status tend to display different level of satisfaction on the same housing environment. There is a substantial proof which indicates that housing satisfaction is determined by subjective and objective circumstances (Theodori, 2001).

Ibem and Amole (2012) and Lu (2002) consider age distribution as an important determinant of occupants satisfaction. In fact, Lu (2002) opined that persons of much younger age bracket express satisfied with the minimal level of satisfaction with the

condition of the residential housing units they occupy than the elderly. Salleh, Yosuf, Salleh and Johari (2012) highlighted that this might be because the younger ones have advanced prospect and ambition than the elderly ones. Home ownership of property has been seen as a strong indicator on residential satisfaction (Barcus, 2004, Elsinga and Hoekstra, 2005, because home ownership of residential housing units gives greater sense of control and security (Lu, 2002), home ownership of housing units promotes higher self-esteem (Rohe, Van Zandt and McCarthy, 2001).

The degree of residents satisfaction occupying residential houses is determined by the availability and functionality of all the components of the environment. The condition of suitable dwelling units, specifically for the urban poor in the society, therefore constitutes a main problem to housing growth in most of the developing countries (Jiboye and Ogunshakin, 2010). Gbakeji (2014) opined that to effectively give pleasure to the residents, a comfortable housing environment have to represent pleasing aspects of the wider society, since residential areas are recognized and depends on the available living space one occupy if it meets up with the social needs while showing the status of an individual in the society. Virtually everybody tries in achieving an environment that is well satisfactory as possible, which is focus on the problems of class, level and life cycle. Within the confines of earnings and life cycle of individuals, though, many other factors are responsible for persuading the satisfaction level of the residents which is most especially concentrated towards the entire neighbourhood (Ajanlekoko, 2001; Nwaka, 2005; Akinmoladun and Oluwoye, 2007). The level of income has been recognized as having positive impact in determining the degree of residents satisfaction. The research by Lu (2002) and Vera-Toscano and Ateca-Amestoy (2008) indicate that persons of high income status are presumed to be comfortable with the condition of their

dwelling units than the lower income group in the society because the rich has a strong economic base to acquire affordable houses.

The pressure of staying in a place for a longer period and the household size has also been regarded as determinants of housing satisfaction. More so, Elsinga and Hockstra (2005) in their research discovered that in Europe, housing satisfaction is advanced among title-holder compare to the ones renting, while Salleh *et al.* (2012) indicated that the capacity to pay for house rent frequently is an indicator that determines level of satisfaction among the renters in mass housing estates particularly in Malaysia. The indices that are out of the housing sector, height of social incorporation among the inhabitants (Hashim, 2003) and entrance to restricted amenities and the different housing scheme (Tech-Hong, 2011) also emerge a considerable weight on occupantssatisfaction.

He also opined that the people of both middle and high cost estates in Greater Kuala Lumpur, Malaysia, were contented when certain chances are granted to them in acquiring new homes using a specific method in the buying system.

2.4 Determinants of Neighbourhood Choice

Idowu *et al.* (2018) carried out a research and looked at factors influencing the decisions of Peri- Urban residents on where they live in Minna, Niger State, Nigeria; and in their research, they discovered sixteen factors used in determining residents change of neighbourhood in Minna. These factors include the following: Ethnic / religion, reduction in the price of land, low housing rent, proximity to place of work, availability of community facilities, security of the neighbourhood, avoidance of the influence of government policy, availability of personal / private means of transportation, redevelopment of the former neighbourhood of residence, redevelopment of the former neighbourhood of residence, voluntary change in neighbourhood, proximity to city centre, interesting architecture and building design, shift from rental tenure to home ownership,

change in profession or employment and tenure composition. After due analysis and consideration, the discovered that the three main determinants of neighbourhood satisfaction in the study area are comfortability, home ownership, low rent because it influences security of the neighbourhood, shift from rental tenure to home occupier ownership and Low housing rent respectively in the study area.

Bergstrom *et al.* (2013) however observed that dwelling availability is an indicator of neighbourhood choice since most households can only change location if there are existing vacancies. People prefer to associate with the natural environment which has an influence on the choice of neighbourhood (Carmona *et al.*, 2008). Rashid *et al.* (2013) and Tapsuwana *et al.* (2018) discovered that security was rated high as a desirable factor to most residents in the choice of neighbourhood.

Zahid *et al.* (2015) conducted a study in Northern Ireland which focus on group technique, adequate accessibility and availability of neighbourhood facilities as the main determinants of neighbourhood choice. Demographic structure of a neighbourhood such as population has also been rated high and influential as an indicator of neighbourhood choice (Sirgy, *et al.*, 2005). Gou and Bhat (2006) reported that in the United States of America, several households tend to be located in areas with high fraction of other households with similarity in edifices and household sizes. It was in relation to this that an earlier study by Winstanley *et al.* (2002) noted that many persons are unwilling to leave their familiar locations due to neighbourhood affection, this is more pronounced if they grew up in the area. Tatu (2010) however explore the factor that urban residents consider when choosing a residential location in Tanzania includes social network because it prevails in the decision making process.

Hedman (2013) carried out a study in Sweden and observed that the existence of family is a strong predictor in the choice of neighbourhood. It is noticeable from the preceding that the idea of choosing a particular neighbourhood depends on several factors within the domain of environmental and social traits of the neighbourhood as well as the supply of requisite facilities, utilities and services. The choice therefore depends on the interest individual household's which is limited by factors such as socio economic attributes of the individual.

CHAPER THREE

3.0 RESEARCH METHODOLOGY

3.1 Research Design

This study adopted a quantitative research approach to ascertain the level of occupants satisfaction in selected public housing estates in Owerri, Nigeria. The research design presented in figure 3.1 was aimed at organizing the research into comprehensive stages and processes for obtaining the requisite data for the study. Similarly, it presents a pragmatic and schematic research approach that was adopted for this study and for the purpose of achieving maximum result. The sole purpose of the research design presented in figure 3.1 was to establish the level of housing satisfaction of residents of public housing estates with the elements of neighbourhood choice in the study area.

As indicated in Figure 3.1, the first stage of this study involved the identification of research problems in terms of existing gap in knowledge with regard to the residents level of satisfaction with public housing estates in Owerri, South-eastern Nigeria. At the second stage, the goal of this study was set and four objectives were evolved for the study. Figure 3.1 indicated how this study achieved its aim through these objectives, the data obtained was subjected to quantitative and qualitative analysis. These guides in presenting the

findings, discussing the implications of the study and suggesting pragmatic ways to improve public housing in the study area in order to improve housing satisfaction.

elements. The socioeconomic data include data on income, expenditure, occupation, education and employment status of the residents. The demographic data needed for this study include data on age, gender, marital status and household size and occupancy ratio of residents of public housing estates in Owerri. The housing data that are of importance

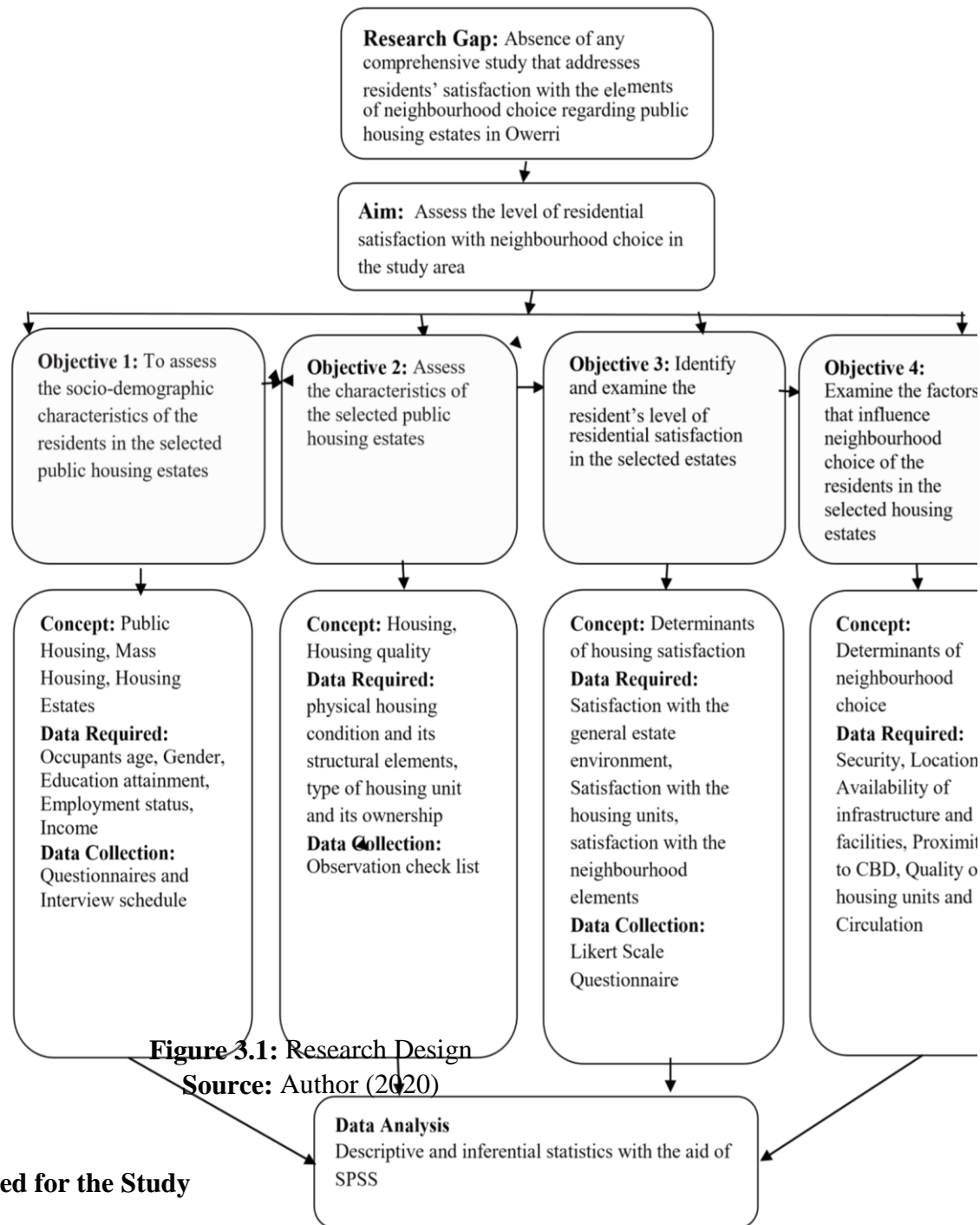


Figure 3.1: Research Design
Source: Author (2020)

3.2 Data Required for the Study

The required data for this study include socio-economic data, demographic data, housing data, perceptual data on housing satisfaction and data on neighbourhood choice to this study are data on housing type, housing ownership status, maintenance of the housing units, building materials used, adherence to space standards, level of building alterations and degree of obsolescence. The perceptual data on housing satisfaction includes residents reported level of satisfaction with the housing units/estates, satisfaction with the structural elements of the housing units and satisfaction with the performance of the buildings while the perceptual data on the elements of

neighbourhood choice include accessibility, location, security, greenery, availability of facilities, reduction in the price of land, low housing rent and proximity to place of work.

3.3 Sources of Data

3.3.1 Primary data

The primary data required for this study was obtained from the household heads in the field by the researcher using the questionnaire, oral interview and personal observation. This is with a view to obtaining first-hand information that was used to measure the level of residents satisfaction with public housing estates in the study area.

3.3.2 Secondary Data

The secondary data required for this study was obtained from published and unpublished sources. Firstly, literature from books, journal articles, working papers and conference papers was reviewed to help in sharpening the focus of this study. Moreover, data on the number of housing units per estate, the flow area ratio, the designed occupancy capacity, the expected lifespan/life-cycle of the housing units and the rate of application for housing modification was obtained from Imo State Housing Corporation. These was used to make comparison with the existing situation of public housing estates in the study area.

3.4 Methods of Data Collection

The survey method was used to collect the primary data for this study. This involved the pilot survey and inventory visit to the housing estates to acquaint the researcher with the study area. Thereafter, detailed data was obtained from the residents of the public housing estates in Owerri using questionnaire method.

3.4.1 Instruments for data collection

Questionnaire: Both structured and unstructured questionnaire numbering (351) was used to acquire the required data from the respondents. The use of unstructured questionnaire is particularly linked to the researcher's perception and ability to reveal other relevant and in-depth data that may not have been captured as closed-ended by the researcher. Furthermore, a 5point Likert Scale type of questionnaire was adopted in order to reveal the level of satisfaction and neighbourhood choice among the residents in the study area with one representing the low level of residential satisfaction while five representing high level of residential satisfaction, (Highly Dissatisfied 1, Dissatisfied 2, Undecided 3, Satisfied 4, Highly Satisfied 5) and a 5point ranking scale was also adopted to know the feelings and perception of residents towards the elements of housing and neighbourhood choice in the study area (Highly Dissatisfied 1.50 – 1.99,

Dissatisfied 2.00 – 2.49, Fair 2.50 – 2.99, Satisfied 3.00 – 3.49, Highly Satisfied 3.50 – 3.99).

3.5 Sampling Approach

3.5.1 Sampling frame

The population for this study was 3800 households (housing units) in the selected public housing estates which formed the unit of analysis in this study. Owing to the fact that the study is a survey, collection of data was carried out in-situ. The total number of housing units in each of the selected public housing estate formed the sampling frame for this study, Federal Housing Estate, Trans-Egbu (610 Housing units), Federal Housing Estate, Umuguma (800 Housing units) and Federal Housing Estate, Naze (900 Housing units) at the federal level while Ikenegbu Housing Estate (680 Housing units), Egbeada Housing Estate (500 Housing units) and Redemption Housing Estate, Avu (310 Housing units), these formed the basis for selecting the sample size for this study. The total number of housing units in the six selected public housing estates for the study was 3,800 and it also include same number of households that has equal chance of being sampled.

3.5.2 Sampling size

The sampling units for this study were the public housing estates while the sampling elements were the household heads. Thus, each household was administered a single questionnaire (specifically to the household head). As mentioned earlier, the sampling frame for this study was 3,800 households and this study used the Dillman's (2007) formula to arrive at the required sample size for this study. Dillman's (2007) formula is given as:

$$N_s = \frac{(Np)(p)(1-p)}{(Np-1)\left(\frac{B}{C}\right)^2 + (p)(1-p)} \quad \text{Equation 1}$$

Where:

N_s = Needed sample

Np = Population size expected

P = Proportion expected to respond to questions given as 0.05

B = Acceptable sampling error (0.05 = ±5%; 0.03 = ± 3%)

C = Z statistic associated with confidence interval (1.960 at 95% confidence level)

Therefore, the sample size for the study is derived as:

$$N_s = \frac{(3800)(0.5)(1-0.5)}{(3781-1)\left(\frac{0.05}{1.96}\right)^2 + (0.5)(1-0.5)} \quad \text{Equation 2}$$

$$N_s = \frac{950}{(3780)\left(\frac{0.05}{1.96}\right)^2 + (0.5)(1-0.5)}$$

$$N_s = \frac{950}{2.71}$$

$$N_s = 351 \quad \text{Equation 3}$$

Therefore, the sample size for the study was 351 respondents (households). It is based on opinions and perceptions from this sample that the study evaluated and determined whether

or not the residents of the selected public housing estates were satisfied with the residential housing units they occupy in the study area or not. Tables 3.1 and 3.2 shows the selected public housing estates, their ownership status and also the number of questionnaires that was administered in each of the selected public housing estates and the percentage distribution respectively.

Table 3.1: Selected Public Housing Estates and their Ownership Status

S/NO	NAME OF HOUSING ESTATE	STATUS	NUMBER
1.	FEDERAL HOUSING ESTATE, TRANS-EGBU	FEDERAL	610
2.	FEDERAL HOUSING ESTATE, UMUGUMA	FEDERAL	800
3.	FEDERAL HOUSING ESTATE, NAZE	FEDERAL	900
4.	IKENEGBU HOUSING ESTATE	STATE	680
5.	EGBEADA HOUSING ESTATE	STATE	500
6.	REDEMPTION HOUSING ESTATE WEST AVU	STATE	310
	TOTAL		3800

Table 3.2: Number of questionnaire administered and the percentage distribution

S/NO	NAME OF HOUSING ESTATE	NUMBER OF QUESTIONNAIRE ADMINISTERED	QUESTIONNAIRE DISTRIBUTION (%)			
			2 ROOMS	3 ROOMS		
1.	FEDERAL HOUSING ESTATE, TRANS-EGBU		56	40	16	15.95
2.	FEDERAL HOUSING ESTATE, UMUGUMA	73	42	31		20.80
3.	FEDERAL HOUSING ESTATE, NAZE	85	50	35		24.22
4.	IKENEGBU HOUSING ESTATE	62	32	30		17.66
5.	EGBEADA HOUSING ESTATE	46	30	16		13.11
6.	REDEMPTION HOUSING ESTATE, AVU	29	29		-----	8.26
TOTAL	351	223		128		100

3.5.3 Sampling technique(s)

The stratified sampling techniques and systematic random sampling were adopted as the sampling techniques for the study. The selection of stratified sampling involved dividing

each housing estate into two zones based on the number of flats, which include 2 and 3 bedroom flats respectively while the choice of systematic random sampling was based on the assumption that it will ensure equal and unbiased chance of inclusion for the inhabitants of the public housing estates in Owerri (that is, the households), so it involved the selection of every 11th housing unit in each of the selected public housing estates in the study area. A total of 223 housing units of 2bedroom flats were selected while 128 housing units of 3bedroom flats were also selected for questionnaire administration in the study area.

3.6 Method of Data Analysis

Data collected was analysed using Statistical Package for Social Sciences (SPSS). Both inferential and descriptive analytical techniques were adopted for the study. The descriptive statistical techniques that was adopted were measures of central tendency which include the frequencies, mean and measures of dispersion such as standard deviation. In terms of inferential techniques, Pearson Product Moment Correlation and T-test for Independent Samples was adopted to ascertain the difference in the level of residential satisfaction in the federal and state housing estates. Analysis of Variance (ANOVA) was used to determine whether there is any statistically significant difference in the level of residential satisfaction of residents in the selected federal and state housing estates in Owerri.

Objective 1: Descriptive statistical technique (frequency and percentage) was used to analyse the socioeconomic and demographic attributes of the residents of public housing estates in the study area.

Objective 2: Descriptive statistical technique was used to analyse the data collected on housing quality, type and its condition. Specifically, then rating method was used to analyse the data on the physical attributes of housing in the study area.

Objective 3: Descriptive statistical technique and mean weighted value was used to identify the determinants of housing satisfaction which will weigh the level of residential satisfaction of the residents with the general estate environment, satisfaction with the housing units and satisfaction with the neighbourhood elements with the aid of a 5point Likert Scale.

Objective 4: Descriptive statistical technique and mean weighted value ranking was adopted in order to rank the determinants of neighbourhood choice in the study area and also compare the level of residential satisfaction of residents across the Federal and State public housing estates in Owerri.

3.7 Method of Data Presentation

The data collected and analysed was presented in form of tables. Specifically, the outputs from the ANOVA test, correlation analysis, socioeconomic and socio

demographic data was presented in tabular form.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Socio-Demographic Characteristics

The socio-demographic characteristics of the residents in the study area includes gender, age group, educational attainment, marital status, occupation, income, nature of employment and household size of the residents in the study area. All these were critically studied and data were collected on each in order to determine the socio demographic status of the residents.

As shown in Table 4.1, majority of the household heads 79.00% in the study area were Men while only 21.00% were Women; this is in line with the findings of Bammeke (2010) that female household headship in Nigeria is a rare role and also an indicator of the role of Men as household heads in the study area.

Table 4.1: Gender of the Respondents

Gender	Federal	State	Total
Male	166 (78%)	113 (82%)	279 (79%)
Female	48 (22%)	24 (18%)	72 (21%)
Total	214 (100%)	137 (100%)	351 (100%)

The result presented in Table 4.2 indicates that 43% of the respondents in the study area fall within the age bracket of 36-45 years, this is closely followed by those within the age

bracket 46-55 years which accounts for 29% of the respondents, those within the age group of 25-35 years accounts for 23% of the population of study respectively. The age group with the lowest population falls above 55 years, representing 5% of the study population. The implication of this is that majority of the residents in the study area falls within the active population with few being retired from active service due to age.

Table 4.2: Age of the Respondents

Age group	Federal	State	Total
25-35 Years	44 (21%)	37 (27%)	81(23%)
36-45 Years	88 (41%)	64 (47%)	152 (43%)
46-55 Years	70 (33%)	31 (23%)	101 (29%)
Above 55 Years	12 (5%)	5 (3%)	17 (5%)
Total	214 (100%)	137 (3%)	351(100%)

In terms of education attainment as shown in Table 4.3, the study area is highly literate because 27.9% of the respondents have acquired post graduate certificate, 71.2% had tertiary education certificate and experience while less than 1% are of secondary level in terms of certificate acquired. Since education is an important aspect of human life especially in urban areas and the respondents are well educated, this implies that the study area can be regarded as a social and informed environment.

Table 4.3: Education Characteristics of the Respondents

Education status	Federal	State	Total
Secondary	1 (0.5%)	2 (1.5%)	3 (0.85%)
Tertiary	146 (68%)	104 (76%)	250 (71.2%)
Postgraduate	67 (31.5%)	31 (22.5%)	98 (27.9%)
Total	214 (100%)	137 (100%)	351 (100%)

Marital status is an indicator of one's status in the society. Table 4.4 shows that majority of the respondents were married 52%, 30% were separated while 11% and 7% were divorced and single respectively. The dominance of married residents in the selected public housing estates implies that the majority of the housing units were inhabited by families and also indicates that the social needs and aspirations of the residents of the estates will be very high in all ramifications.

Table 4.4: Marital Status of the Respondents

Marital status	Federal	State	Total
Married	127 (59%)	54 (39%)	181 (52%)
Single	17 (8%)	10 (7%)	27 (7%)
Separated	47 (22%)	58 (42%)	105 (30%)
Divorced	23 (11%)	15 (11%)	38 (11%)
Total	214 (100%)	137 (100%)	351(100%)

Residents of the selected public housing estates as indicated in Table 4.5 were also found to be gainfully employed in the public and private sector at both federal and state level which accounts to 51%, 26% are engaged in trading, 9% of the respondents were found to artisans while 15% were engaged in farming related activities; this is an indication that civil servants occupy most of the housing units in the study area and are still active in service which will in turn improve their living standard and economic status in the society.

Table 4.5: Occupation of the Respondents

Occupation	Federal	State	Total
Trading	60 (28%)	32 (23%)	92 (26%)
Civil Service	112 (52%)	21 (10%)	133 (38%)
Artisans		68 (50%)	68 (19%)
Farmer	21 (10%)	30 (19%)	51 (15%)

Total	214 (100%)	137 (100%)	351 (100%)
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The level of one's income is a major determinant in the society, as indicated in Table 4.6, it was discovered that the whole respondents covering 100% of the household heads earn above ₦45,000 monthly. This implies that all the household heads in the selected housing estates earn above the approved minimum wage of ₦30,000 and are living above the poverty line in Nigeria, which also classify them as middle income earners in the society.

Table 4.6: Monthly Income of the Respondents

Monthly Income	Federal	State	Total
Above ₦45,000	250 (100%)	101 (100%)	351 (100%)
Total	250 (100%)	101 (100%)	351 (100%)

The nature of employment in the study area as seen in Table 4.7 indicates that majority (53%) of the residents of the selected public housing estates were gainfully employed in both the public and private sector in the study area, this is in line with Table 4.5 on occupation of the respondents where 51% were civil servants. The respondents that were engaged in self-employed businesses accounts for 47%. This is an indication that most of the respondents were civil servants which is closely followed by the selfemployed business men and women because Igbos are naturally business oriented in nature both in large and small scale which in turn improves the economy of the state.

Table 4.7: Nature of Employment of the Respondents

Nature of employment	Federal	State	Total
Government	74 (34%)	48 (35%)	122 (35%)
Self Employed	102 (48%)	63 (46%)	165 (47%)
Private	38 (18%)	26 (19%)	64 (18%)
Total	214 (100%)	137 (100%)	351 (100%)

As indicated in Table 4.8, 14% had a household size of 1 person, 17% had a household size of 2-3 persons, 26% of the residents had a household size of 4-5 which complied with the acceptable and recommended household size of maximum of 6 persons per household as stipulated in the National Housing Policy (NHP, 1991). 15% of the respondents however has a household size of 6-7 persons while 28% of the residents reported a household size of above 8 persons respectively, this indicates that a significant proportion of the households in the study area are in compliance with the national threshold, which will in turn reduce overcrowding and promote good health.

Table 4.8: Household Size of the Respondents

Household size	Federal	State	Total
1 Person	27 (13%)	22 (16%)	49 (14%)
2-3 Persons	45 (21%)	15 (11%)	60 (17%)
4-5 Persons	48 (22%)	34 (29%)	82 (26%)
6-7 persons	40(19)	20 (10%)	(15%)
Above 8 Persons	54 (25%)	46 (34%)	100 (28%)
Total	214 (100%)	137 (100%)	351 (100%)

4.2 Housing Units Information

Housing unit is a structure used as a home or residence by one person or more people who maintain common household. This section covers information on housing typology, length of residency, housing ownership status, means of getting housing related information and the source of finance on housing related activities.

The types of housing units as shown in Table 4.9 indicates that most of the housing units in the selected public housing estates were detached bungalows which covers 64% while semi-detached and single family bungalows represents 25% and 12% respectively. This implies that most of the housing units in the study area are modern in terms of design which is a confirmation of the residents level of income as indicated inTable 4.6.

Table 4.9: Housing Typology of the Respondents

Housing typology	Federal	State	Total
Single family Bungalow	26 (12%)	17 (12%)	43 (12%)
Semi-detached Bungalow	56 (26%)	30 (22%)	86 (25%)
Detached Bungalow	132 (62%)	90 (66%)	222 (64%)
Total	214 (100%)	137 (100%)	351 (100%)

The duration of residency as observed in Table 4.10 shows that 33% of the residents have occupied their housing units within the range of 2-4 years, while 29% and 21% of the residents have stayed in the selected public housing estates for 5-6 years and 7-8 years respectively. Only 9% of the residents stayed for more than 8 years in the study area and 8% of the residents occupy the study area for less than 2 years. This is an implication that more than half of the residents in the study area have significant experience of the study area in terms of residency.

Table 4.10: Length of Residency of the Respondents

Length of residency	Federal	State	Total
< 2 years	15 (7%)	12 (9%)	27 (8%)
2-4 years	64 (30%)	53 (39%)	117 (33%)
5-6 years	67 (31%)	36 (26%)	103 (29%)
7-8 years	46 (22%)	26 (19%)	72 (21%)
> 8 years	22 (10%)	10 (7%)	32 (9%)
Total	214 (100%)	137 (100%)	351 (100%)

The housing ownership status of the respondents from the information in Table 4.11, indicates that majority of the household heads own their housing units (53%) while 47% of the household heads were renting their housing units in the study area. This is an implication that most of the residents must have purchased the housing units they occupy in the selected public housing estates which gives room for some of the housing modification in the study area.

Table 4.11: Housing Ownership Status of the Respondents

Housing ownership status	Federal	State	Total
Rented	106 (50%)	59 (43%)	165 (47%)
Owner occupier	108 (50%)	78 (57%)	186 (53%)
Total	214 (100%)	137 (100%)	351 (100%)

As indicated in Table 4.12, the major source of funds for the purchase of the housing units in the study area was from bank loan 54%, while 32% and 11% of the household heads derived their source of fund from personal savings and through friends and relatives respectively, only 3% of the household heads get their source of housing fund from government loan at different level. This implies that bank loan serves as a catalyst for effective housing delivery in the study area and should be encouraged across board.

Table 4.12: Sources of Finance of the Respondents

Sources of Finance	Federal	State	Total
Friends/Relative	25 (12%)	15 (11%)	40 (11%)
Personal Savings	53 (25%)	58 (42%)	111 (32%)
Bank Loan	129 (60%)	62 (45%)	191 (54%)
Government Loan	7 (3%)	2 (2%)	9 (3%)
Total	214 (100%)	137 (100%)	351 (100%)

4.3 Satisfaction with Physical Elements of the Housing Unit(s)

The level of satisfaction with physical elements of the housing units is very important because they are active elements of the housing units. The physical components include wall, roof, floor, ceiling, door and window. It also has to do with the available facilities, utilities and services within the housing units, these include access to potable water, electricity, drainage system, waste disposal system and greenery. The indoor components of the housing units include ventilation, lightening system, wall finishing, roof and floor finishing. Finally, the functionality and sustainability of all the elements of the housing units is very important towards achieving greater level of residential satisfaction.

Table 4.13 indicates the level of residential satisfaction with the elements of the housing units, and it was discovered that (50%) of the residents in the study area were dissatisfied with almost all the elements of the housing units they occupy, especially those that are renting because of none modification. This implies that the government needs to carryout total renovation and maintenance across the rented housing units in the study area in order to improve the level of residential satisfaction among the residents.

Table 4.13: Satisfaction with the Physical Elements of the Housing Unit(s)

Physical Components	HighlyDissatisfie d	Dissatisfied	Fair	Satisfied	Highly Satisfied	Total
Wall	26 (7)	140 (40)	153 (44)	30 (9)	2 (1)	351 (100)
Roof	23 (7)	141 (40)	135 (38)	46 (13)	6 (2)	351 (100)
Floor	33 (9)	117 (33)	99 (28)	90 (26)	12 (3)	351 (100)
Ceiling	38 (11)	117 (33)	115 (33)	61 (17)	20 (6)	351 (100)
Doors	64 (18)	111 (32)	106 (30)	70 (20)	0 (0)	351 (100)
Windows	113 (32)	124 (35)	87 (25)	27 (8)	0 (0)	351 (100)

Building design	67 (19)	113 (32)	119 (34)	52 (15)	0 (0)	351 (100)
PHC Index	(15)	(35)	(33)	(15)	(2)	(100)

Ranking a facility is a way of knowing the level and impact of that facility on the residents. Table 4.14 indicates that the residents occupying the federal housing units express a fair (2.62) level of satisfaction with all the physical elements of the housing units except the windows while the residents those occupying the state housing units also felt fairly satisfied (2.51) with the elements except for doors, windows and building design. However, the Relative Residential Satisfaction Index (RRSI) revealed that the residents were fairly satisfied (2.57) with the physical elements of the housing units in the study area. This is a call for improvement by the government to the residents for optimum level of residential satisfaction.

Table 4.14: Ranking the Indicators of the Physical Elements of Housing Unit(s)

Indicators	Federal	Rank	State	Rank	Total	Rank
Wall	2.55	Fair	2.55	Fair	2.55	Fair
Roof	2.65	Fair	2.6	Fair	2.63	Fair
Floor	2.79	Fair	2.82	Fair	2.81	Fair
Ceiling	2.86	Fair	2.55	Fair	2.71	Fair
Doors	2.87	Fair	2.49	Dissatisfied	2.68	Fair
Windows	2.07	Dissatisfied	2.13	Dissatisfied	2.10	Dissatisfied
Building design	2.57	Fair	2.42	Dissatisfied	2.50	Fair
PHC Index	2.62	Fair	2.51	Fair	2.57	Fair

Table 4.15 shows the level of residential satisfaction with the available facilities, utilities and services in the study area. The table indicates that (49%) of the residents were dissatisfied with the availability of facilities, utilities and services while only (18%) felt satisfied with the available facilities. This is an indication that the functionality level of the available facilities in the study area is less which also needs improvement.

Table 4.15: Satisfaction with Facilities, Utilities and Services in the Housing Unit(s)

Facilities	Highly Dissatisfied	Dissatisfied	Undecided	Satisfied	Highly Satisfied	Total
Water Access	97 (28)	155 (44)	77 (22)	20 (6)	2 (1)	351 (100)
Electricity Access	15 (4)	78 (22)	141 (40)	102 (29)	15 (4)	351 (100)
Drainage system	22 (6)	100 (26)	142 (40)	78 (22)	9 (3)	351 (100)
Waste disposal	31 (9)	134 (38)	122 (35)	56 (16)	8 (2)	351 (100)
Landscaping elements	107 (30)	131 (37)	88 (25)	23 (7)	2 (1)	351 (100)
Total	(15)	(34)	(32)	(16)	(2)	(100)

Table 4.16 indicates that the residents of the Federal Housing Estates were fairly satisfied with RRSI of (2.59) while that of the State Housing Estates were dissatisfied with RRSI of 2.49. This implies that the residents of Federal Housing Estates felt more satisfied with the available facilities, utilities and services than those in the State

Housing Estates, with the general RRSI of 2.55 which is fair for all.

Table 4.16: Ranking the Available Facilities, Utilities and Services

Indicators	Federal	Rank	State	Rank	Total	Rank
Water supply	2.08	Dissatisfied	2.07	Dissatisfied	2.07	Dissatisfied
Electricity Access (Hours)	3.08	Fair	3.05	Fair	3.07	Fair

Drainage system	2.95	Fair	2.73	Fair	2.86	Fair
Waste disposal	2.69	Fair	2.58	Fair	2.65	Fair
Landscape and Green Amenities	2.13	Dissatisfied	2.04	Dissatisfied	2.09	Dissatisfied
	2.59	Fair	2.49	Dissatisfied	2.55	Fair

The indoor and outdoor performance of the housing units plays a vital role towards residential satisfaction. Table 4.17 shows that 45% of the residents in the study area were dissatisfied with the indoor and outdoor performance of the housing units probably because most of the housing units are obsolete. This indicates that most of the housing units needs urgent and proper maintenance for optimum level of residential satisfaction.

Table 4.17: Satisfaction with Indoor and Outdoor Performance of the Housing Units

Indoor Component	Highly Dissatisfied	Dissatisfied	Undecided	Satisfied	Highly sSatisfied	Total
Ventilation	21 (6)	88 (25)	161 (46)	72 (21)	9 (3)	351 (100)
Lightening	19 (5)	141 (40)	124 (35)	62 (18)	5 (1)	351 (100)
Kitchen	37 (11)	120 (34)	114 (32)	63 (18)	17 (5)	351 (100)
Wall finishing	42 (12)	134 (38)	105 (30)	61 (17)	9 (3)	351 (100)
Floor finishing	32 (9)	137 (39)	122 (35)	54 (15)	9 (3)	351 (100)
Roofing	48 (14)	128 (36)	114 (32)	52 (15)	9 (3)	351 (100)
Total	(9)	(36)	(35)	(17)	(3)	100)

As Table 4.18 indicates, both residents of Federal and State Government owned public housing estates express a fair level of residential satisfaction with a general RRSI of 2.68 which is average.

Table 4.18: Ranking of the level of Satisfaction with Indoor and Outdoor Performance of the Housing Units

Indicators	Federal	Rank	State	Rank	Total	Rank
Ventilation	2.92	Fair	2.84	Fair	2.89	Fair
Lightening	2.80	Fair	2.53	Fair	2.7	Fair
Kitchen configuration	2.83	Fair	2.56	Fair	2.72	Fair
Wall finishing	2.60	Fair	2.61	Fair	2.6	Fair
Floor finishing	2.71	Fair	2.46	Fair	2.62	Fair
Roofing	2.57	Fair	2.54	Fair	2.56	Fair
Indoor and Outdoor Element	2.74	Fair	2.59	Fair	2.68	Fair

The availability of facilities in the study area is incomplete without been functional. Table 4.19 shows the level of satisfaction with functionality status of the available facilities in the study area. Majority (53%) of the respondents' express high level of dissatisfaction with the functionality of most of the facilities in their housing units while only 15% felt satisfied. This is an indication that most of the facilities in the housing units were found not functional probably because of over stretch or lack of maintenance by both the government and the residents.

Table 4.19: Satisfaction with Functionality of the Facilities in the Housing Units

Functionality	Highly Dissatisfied	Undecided	Satisfied	Highly Satisfied	Total
Water Facilities	20 (6)	130 (37)	153 (44)	44 (13)	351 (100)
Kitchen Facilities	33(9)	143 (41)	130 (37)	39 (11)	351 (100)

Toilet Facilities	42 (12)	129 (37)	118 (34)	56 (16)	6 (2)	351 100
Electrical Facilities	44 (13)	132 (38)	115 (33)	53 (15)	7 (2)	351 100
Drainage System	39 (11)	131 (37)	111 (32)	64 (18)	6 (2)	351 100
Fire service Facilities	43 (12)	135 (38)	113 (32)	50 (14)	10 (3)	351 100
Waste collection and disposal Facilities	116 (33)	147 (42)	69 (20)	18 (5)	1 (0)	351 100
Total	(14)	(39)	(33)	(13)	(2)	100

Table 4.20 shows the perception of the residents and the level of residential satisfaction with the available facilities in the study area. The functionality index as shown in table 4.3.8 indicates that the residents of the federal housing estates express a fair level of satisfaction with the functionality index of 2.53 while the occupants of state housing estates express dissatisfaction with the functionality with the functionality index of 2.47. The general perception of the functionality regarding facilities was fair with the functionality index of 2.50.

Table 4.20: Ranking and level of Satisfaction with the Functionality of the Facilities in the Housing Units

Indicators	Federal	Rank	State	Rank	Total	Remark
Water Facilities	2.65	Fair	2.69	Fair	2.66	Fair
Kitchen Facilities	2.59	Fair	2.49	Dissatisfied	2.55	Fair
Toilet Facilities	2.61	Fair	2.55	Fair	2.59	Fair
Electrical Facilities	2.61	Fair	2.50	Fair	2.56	Fair

Drainage System	2.64	Fair	2.59	Fair	2.62	Fair
Fire service	2.61	Fair	2.51	Fair	2.57	Fair
Waste collection	1.99	Dissatisfied	1.96	Dissatisfied	1.98	Dissatisfied

Functionality Index	2.53	Fair	2.47	Dissatisfied	2.50	Fair
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The availability and functionality of household facilities and utilities will also need to be sustainable in order to serve the residents well. Table 4.21 shows that 47% of the residents in the study area were dissatisfied with the household facilities in the housing units they occupy, 36% were undecided while 17% express high level of satisfaction with the sustainability of the household facilities and utilities in their housing units. This is an indication that most of the household facilities and utilities in the study area were not sustainable due to lack of maintenance.

Table 4.21: Satisfaction with the Level of Sustainability of the Household Facilities and Utilities

Sustainability	Highly Dissatisfied	Dissatisfied	Undecided	Satisfied	Highly Satisfied	Total
Wall	16 (5)	80 (23)	184 (52)	64 (18)	7 (2)	351 (100)
Roof	22 (6)	173 (49)	99 (28)	49 (14)	8 (2)	351 (100)
Ceiling	47 (13)	128 (36)	128 (36)	44 (13)	4 (1)	351 (100)

Landscape	50 (14)	117 (33)	117 (33)	56 (16)	11 (3)	351 (100)
Energy sources	43 (12)	143 (41)	108 (31)	46 (13)	11 (3)	351 (100)
Water sources	46 (13)	119 (34)	122 (35)	58 (17)	6 (2)	351 (100)
Total	(11)	(36)	(36)	(15)	(2)	(100)

Table 4.22 shows the level of sustainability of the household facilities and utilities in the study area. It was discovered that the residents of the Federal Housing estates express a fair level of residential satisfaction (2.64) while the State Housing estate residents also expressed a fair level of satisfaction with the sustainability index of (2.60). The general sustainability index of facilities in the study area is fair (2.62) for both Federal and State housing estates residents.

Table 4.22: Ranking the Sustainability of the Household Facilities

Indicators	Federal	Rank	State	Rank	Total	Rank
Wall material	2.93	Fair	2.86	Fair	2.90	Fair
Roof material	2.53	Fair	2.63	Fair	2.57	Fair
Ceiling material	2.52	Fair	2.51	Fair	2.52	Fair
Landscape material	2.71	Fair	2.44	Dissatisfied	2.60	Fair
Energy sources	2.55	Fair	2.53	Fair	2.54	Fair
Water sources	2.59	Fair	2.61	Fair	2.60	Fair
Sustainability Index	2.64	Fair	2.60	Fair	2.62	Fair

Adequate safety in the estate will go a long way in determining the level of residential satisfaction of every resident. Table 4.23 shows that 42% of the residents felt dissatisfied

with the safety level of the residents both at day and night while 18% were satisfied respectively. This is an indication that the security architecture need to be improved in the study area especially during the night in order to boost confidence of all residents and also improve the level of residential satisfaction in the study area at all times.

Table 4.23: Satisfaction with the Level of Security in the Estate(s)

Safety	Highly Dissatisfied	Dissatisfied	Undecided	Satisfied	Highly Satisfied	Total
Safety of life Day)	7 (2)	77 (22)	177 (50)	84 (24)	6 (2)	351 (100)
Safety of life Night)	15 (4)	133 (38)	144 (41)	51 (15)	8 (2)	351 (100)
Safety of property Day)	37 (11)	141 (40)	123 (35)	46 (13)	4 (1)	351 (100)
Safety of property Night)	46 (13)	143 (41)	103 (29)	56 (16)	3 (1)	351 (100)
Total	(7)	(35)	(39)	(17)	(1)	(100)

The safety index in the study area in Table 4.24 shows that the residents of the Federal Housing estates express a fair (2.67) level of satisfaction and the residents of the State Housing estates were also fairly satisfied with the safety index of 2.61. this is an indication that the entire residents in the study area express a fair (2.70) level of satisfaction with the safety of properties both during the day and night.

Table 4.24: Ranking of the Level of Security in the Estates

Indicators	Federal	Rank	State	Rank	Total	Rank
Safety of life (Day)	2.93	Fair	2.86	Fair	3.01	Fair

Safety of life (Night)	2.53	Fair	2.63	Fair	2.73	Fair
Safety of properties (Day)	2.52	Fair	2.51	Fair	2.54	Fair
Safety of properties (Night)	2.71	Fair	2.44	Dissatisfied	2.51	Fair
Safety Index	2.67	Fair	2.64	Fair	2.70	Fair

Table 4.25 shows that (50%) of the residents were dissatisfied with the neighbourhood character in the study area, 32% of the residents felt undecided while only 19% were satisfied.

Table 4.25: Satisfaction with Active Facilities in the Study Area

Neighbourhood Choice Dissatisfied	Highly Dissatisfied Satisfied	Undecided	Satisfied	Highly Total	Total	
School	42 (12)	117 (33)	112 (32)	74 (21)	6 (2)	351 (100)
Market	47 (13)	133 (38)	120 (34)	43 (12)	8 (2)	351 (100)
Road network	46 (13)	135 (38)	105 (30)	49 (14)	16 (5)	351 (100)
Health care	41 (12)	138 (39)	115 (33)	48 (14)	9 (3)	351 (100)
Recreation	45 (13)	121 (34)	127 (36)	54 (15)	4 (1)	351 (100)
Distance to Bus top	33 (9)	143 (41)	111 (32)	56 (16)	8 (2)	351 (100)

Distance to CBD	111 (32)	139 (40)	78 (22)	17 (5)	6 (2)	351 (100)
Waste Management and sanitation	7 (2)	100 (28)	122 (35)	102 (29)	20 (6)	351 (100)
Total (13)	(37)	(16)	(16)	(3)	(100)	

Table 4.26 shows the ranking and the level of satisfaction of the residents with the elements of neighbourhood character in the study area. It was seen that the residents of both Federal and State Housing estates express a fair level of satisfaction with the neighbourhood index of 2.54 and 2.53 respectively, this is an indication that the satisfaction with the neighbourhood character in the study area is relatively fair in the study area.

Table 4.26: Ranking and Satisfaction with the Neighbourhood Facilities in the Study Area

Neighbourhood Character	Federal	Rank	State	Rank	Total	Rank
Trust	2.72	Fair	2.75	Fair	2.74	Fair
Neighbourhood ties	2.56	Fair	2.47	Dissatisfied	2.52	Fair
School	2.68	Fair	2.66	Fair	2.67	Fair
Market	2.5	Fair	2.55	Fair	2.52	Fair
Road network	2.56	Fair	2.63	Fair	2.58	Fair
Recreation	2.58	Fair	2.56	Fair	2.58	Fair
Health	2.62	Fair	2.47	Dissatisfied	2.56	Fair
Distance to Bus Stop	2.54	Fair	2.72	Fair	2.61	Fair
Distance to the CBD	2.11	Dissatisfied	1.97	Dissatisfied	2.05	Dissatisfied

Neighbourhood Index 2.54 Fair 2.53 Fair 2.54 Fair

The general perception of all the elements of housing and neighbourhood choice as indicated in Table 4.27 shows a fair (2.60) level of residential satisfaction index in the study area. This is an indication that the study area is accommodating in terms of its fair treatment to all the elements of housing and neighbourhood choice which will in turn increase the level of residential satisfaction of the residents.

Table 4.27: General Perception of the Elements of Housing and Neighbourhood Choice in the Study Area

Components	Federal	Rank	State	Rank	Total	Rank
Physical Element	2.62	Fair	2.51	Fair	2.57	Fair
Amenities and Facilities	2.59	Fair	2.49	Dissatisfied	2.55	Fair
Indoor and Outdoor Element	2.74	Fair	2.59	Fair	2.68	Fair
Functionality Index	2.53	Fair	2.47	Dissatisfied	2.50	Fair
Sustainability Index	2.64	Fair	2.60	Fair	2.62	Fair
Safety Index	2.67	Fair	2.61	Fair	2.70	Fair
Neighbourhood Index	2.63	Fair	2.55	Fair	2.60	Fair
Residential S. Index	2.63	Fair	2.55	Fair	2.60	Fair

As indicated in Table 4.28, the major determinants of neighbourhood choice influencing residential satisfaction has to do with low housing rent, availability of water, security, quality housing units and accessibility cutting across federal and state housing estates in the study area.

Table 4.28: Ranking of the Determinants of Neighbourhood Choice in the Study Area

Neighbourhood Choice	Federal	Rank	State	Rank	Total	Rank
Trust	1.94	25	2.21	20	2.05	21st
Population density	2	22	2.06	23	2.03	23rd
Religion	2.03	21	2.2	21	2.1	20th
Layout of the estate	2.63	13	2.42	19	2.54	18th
Reputation	2.72	4	2.64	7	1.97	25th
Proximity to school	2.68	8	2.66	4	2.67	6th

Proximity to market	2.71	7	2.58	12	2.66	8th
Proximity to the CBD	2.63	12	2.66	4	2.65	10th
Proximity to work place	2.6	16	2.51	17	2.56	16th
Proximity to bus stop	2.51	19	2.56	14	2.53	19th
Security Architecture	2.72	4	2.75	2	2.74	3rd
Household size	2.63	13	2.47	18	2.57	15th
Neighbourhood ties	2.55	18	2.55	15	2.55	17th
Cost of transportation	2.63	13	2.63	8	2.63	12th
Location	2.67	9	2.65	6	2.66	8th
Low housing rent	2.98	1	2.73	3	2.88	1st
Availability of electricity	2.72	4	2.59	11	2.67	6th
Availability of vacancy	1.96	23	1.99	24	2,05	21st
Tribe / Ethnicity	2.67	9	2.58	12	2.64	11th
Social status	2.65	11	2.53	16	2.6	13th
Population characteristics	2.57	17	2.62	9	2.59	14th
Quality of the housing	1.96	23	2.18 n	22	2.69	4th
Connectivity/ Circulation	2.73	3	2.61	10	2.68	5th
Availability of water	2.76	2	2.91	1	2.82	2nd
Good waste disposal	2.02	20	1.93	25	1.99	24th

As indicated in Table 4.29, low housing rent ranked first as the major determinant of neighbourhood choice in the study area because of the low amount paid as house rent compared to other housing units especially the private ones, it is closely followed by availability of water supply which is readily available in the study area. The security architecture and quality of housing units were ranked third and fourth respectively because most of the residents and their properties felt secured to an optimum level both during the day and night with the aid security outfit within the various housing estates. The circulation pattern and the level of connectivity within the study area is ranked fifth because its good and of reasonable standard across all the estates. The availability of electricity and proximity to school are ranked sixth in the study area because availability of electricity attracts population with at least 13 hours of electricity daily which will in

turn promote small scale businesses and some of the service industries in the study area while proximity to school also play a vital role in attracting population to the study area.

Furthermore, the location of the various estates and proximity to major markets like Douglas and Relief markets where major food and goods are found at all times also serve as a determinant of the choice of neighbourhood. Finally, most of the various estates in the study area located close to the Central Business District (CBD) to have a feeling of the main Owerri city centre at all times, thereby making it a strong indicator of neighbourhood choice in the study area.

Table 4.29: Top Ten Determinants of Neighbourhood Choice in the Study Area

Determinants of Neighbourhood Choice	Rank
Housing rent	1st
Availability of water	2nd
Security Architecture	3rd
Quality of housing units	4th
	5th
Connectivity / Circulation	
Availability of electricity	6th
	6th
Proximity to school(s)	
	8th
Proximity to market	
Location of the neighbourhood	8th
Proximity to the CBD	10th

The correlation between Federal and State public housing estates was measured. The study discovered that there is a strong and positive correlation in the level of residential satisfaction between the residents of the selected Federal and State housing estates in the study area ($p = <0.001$, $r = \mathbf{0.86}$) as indicated in Table 4.30.

Table 4.30: Level of Residential Satisfaction between Federal and State residents

		Federal	State
Federal	Correlation	1	0.86
	p-value 2-tailed		<0.001
State	Correlation	0.86	1
	p-value 2-tailed	<0.001	

Further test revealed that the correlation was not statistically significant ($t = 1.45$, $p = 0.151$) as indicated in Table 4.31. A t-test for independent samples (equal variances assumed) showed this difference was not statistically significant, $t(86) = 1.45$, $p = 0.151$, 95% Confidence Interval [-0.03, 0.17].

Table 4.31: t-Test for Independent Samples

		t	df	p-value (2-tailed)
Federal State	Equal variances	1.45	86	0.151
	Unequal variances	1.45	85.74	0.151

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Housing is a fundamental part of human society and development, the need for suitable, decent, acceptable and satisfactory housing cannot be overemphasized. It is one of the primary indicators of standard of living, quality of life and well-being of people all over the world. Housing is, therefore, a basic need which must be satisfied in all ramifications. Good housing condition must satisfy the physical, emotional and psychological needs of the occupants. However, majority of the interventions on public housing in Nigeria are apparently perceived and implemented without adequate participation of the beneficiaries. Consequently, the public housing units erected and supplied to the end users do not meet their prospects; this mismatch between the expected housing condition and the actual housing condition of the people explains either their levels of housing satisfaction or dis-satisfaction in the study area.

This study revealed that all the residents of public housing estates in Owerri were middle class earners (earning above ₦45,000) monthly with an average household size of 4-6 persons per household. Furthermore, the study revealed that the major determinants of the choice of neighbourhood in the study area were low housing rent, availability of water and adequate security architecture among others. The availability of bank loans serves as a catalyst to most residents towards the acquisition of housing units. It was also discovered that both residents of federal and state housing units expressed fair level of residential satisfaction with the elements of housing and neighbourhood choice. Furthermore, the correlation between Federal and State public housing estates was measured, and it was discovered that there is a strong and positive correlation ($r = 0.86$) in the level of residential satisfaction between the residents of the selected Federal and State housing estates in the study area. However, the t-test revealed that the correlation was not statistically significant ($t = 1.45, p = 0.151$).

5.2 Recommendations

The study therefore recommends that:

- i. Intensive measures should be well positioned by the government and relevant non-governmental organizations to ensure sufficient provision and maintenance of facilities, utilities and services within the study area.
- ii. Federal and States governments should pay attention to the rehabilitation of roads and drainage channels within public housing estates, as this infrastructure will help in meeting the daily transportation needs of the residents and also improves the economy of the state.

- iii. Drainage system as well as sewage disposal and management system of the housing units should be carefully considered, as these contribute to all kinds of pollution within the housing estates.
- iv. Relevant government agencies saddled with the tasks of ensuring wellconstructed drainage channels should intensify more efforts on monitoring and evaluation to ensure high level of residential satisfaction.
- v. Public participation should be encouraged for sustainable housing delivery and maintenance towards forming a healthy residential environment for its inhabitants.
- vi. Public housing developers should continue to improve the quality and quantity of housing units they produce by affirming that houses are designed and constructed to offer adequate security, privacy, comfort for the residents.
- vii. Public housing agencies should venture and adopt housing delivery strategies, for example, core housing and shell stage that involve active participation of the end users in the development of their dwelling units and promote an improved rate of construction.
- viii. Adequate provision of greenery and functional health services in order to improve the health status of the residents.
- ix. Finally, the government should adopt policies that promote mortgage-based housing schemes for low and middle-income earners in Nigeria, as the study showed that most of the residents of the public housing estates in the study area were middle class earners and will be more satisfied if they can gain possession of government owned mass houses on the mortgage than outright purchase provisions which might be unfavourable at times depending on the circumstances.

5.3 Contribution to Knowledge

This study will contribute to knowledge in the housing development sector in Nigeria towards helping the public housing development agencies such as the Federal Housing Corporation (FHC), Imo State Housing Corporation (ISHC) and Owerri Capital Development Authority (OCDA) in the development of qualitative housing

environment that satisfies the expectations of the end-users of the housing units. This will ensure that the occupants of public housing estates in Owerri are relatively contented with the neighbourhood and the housing environment they occupy.

Furthermore, the result of this study helped to enlighten the intending occupants of public housing estates in relation to the situation of neighbourhood and public housing in Owerri. It will be a useful template for government and private developers on residents perception of mass housing and the actual performance of mass housing in the case study. Finally, this research constitutes a reference material for researchers interested in measuring and assessing the degree of housing satisfaction in eastern Nigeria.

5.4 Proposition for further Research

Studies have established the desire of residents satisfaction with housing, thereby adopting post occupancy evaluation techniques; however, slight concentration has been accorded to the indicators that determine neighbourhood choice of residents with respect to public housing estates in Owerri. Although the magnitude of housing satisfaction has been measured in different areas across the state, this research placed emphasis on understanding the predictors of neighbourhood choice as well as the differentials in housing satisfaction among people of different socio-economic and demographic distinctiveness in Owerri, Imo State, Nigeria. This study focused only on three Local Government Areas (Owerri North, Owerri West and Owerri Municipal) tried knowing all

the predictors of neighbourhood choice that attract residents to the area. Further studies can look at public housing estates cross the three senatorial zones in Imo State (Owerri, Okigwe and Orlu) in order to determine the major predictors of neighbourhood choice in a wider perspective and also a comparative assessment between public and private housing estates across the state.

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APPENDIX 1: QUESTIONNAIRE

DEPARTMENT OF URBAN AND REGIONAL PLANNING

SCHOOL OF ENVIRONMENTAL TECHNOLOGY

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

Dear Respondent,

I am **Habila Jerry**, a final year postgraduate student of the Department of Urban and Regional Planning of the above mentioned Institution carrying out a research on the topic: '**Assessment of Residential Satisfaction as a determinant of Neighbourhood Choice among residents of Public Housing Estates in Owerri, Imo State Nigeria**'. I will be very grateful if you will have the time and interest to participate in this exercise. To be sure, this research is purely an academic exercise; as such, your privacy is guaranteed and all information you provide will be treated with utmost confidentiality.

- i. **SATISFACTION RATING:**(Highly Dissatisfied 1, Dissatisfied 2, Undecided 3, Satisfied 4, Highly Satisfied 5).
- ii. **RANKING RATING:**(Highly Dissatisfied 1.50 – 1.99, Dissatisfied 2.00 – 2.49, Fair 2.50 – 2.99, Satisfied 3.00 – 3.49, Highly Satisfied 3.50 – 3.99).

SECTION A: SOCIO - DEMOGRAPHIC CHARACTERISTICS

1. Gender: (a) Male (b) Female
2. Age group: (a) Below 25 years [] (b) 25-39 years [] (c) 40-54 years [] (d) 55-69 years [] (e) 70 years and above []
3. Education attainment: (a) Primary school [] (b) Secondary school [] (c) Tertiary [] (d) Post graduate
4. Marital status: (a) Married [] (b) Single [] (c) Separated [] (d) Divorced []
5. Occupation: (a) Trader (b) Civil servant (c) Farmer (d) Others specify
.....
6. Nature of employment: (a) Government (Public sector) [] (b) Self-employed [] (c) Private sector [] (d) Others specify []
7. Monthly income level (a) <₦15,000 [] (b) ₦15,000-₦29,999 [] (c) ₦30,000-₦44,999 [] (d) above ₦45,000 []
8. Household size: (a) 2 persons (b) 3-4 persons (c) 5-6 persons (d) 7 persons and above

SECTION B: HOUSING UNITS INFORMATION

9. Housing typology: (a) Single family bungalow (b) Semi-detached bungalow (c) Detached bungalow (d) Duplex (e) Others specify
.....
10. Length of residency in the apartment: (a) less than 2 years (b) 2-4 years (c) 5-6 years (d) 7-8 years (e) more than 8 years
11. Housing ownership status: (a) Owner-occupied (b) Renter-occupier (c) Others specify
.....
12. If owner-occupied, what was the mode of acquisition? (a) Direct purchase (b) Transferred ownership [] (c) Other arrangements (please explain)-----

13. How did you obtain information about the housing scheme? (a) Public media [] (b) Through friends / relatives [] (c) Through staff of the housing/urban development agency / ministry / board [].
14. Did you experience much difficulty in the payment of the required fees for the purchase of the house? (a) Yes [] (b) No [] (c) Not sure [].
15. Source(s) of funds for the purchase of the house: (a) Financial assistance from friends, relatives, etc. [] (b) Personal savings [] (c) Bank loan [] (d) Loan from government establishment [] (e) Others (please specify)-----
16. Is the house worth the cost of purchase? (a) Yes [] (b) No []
17. Do you consider this house to be better than where you lived in before? (a) Yes [] (b) No [] (c) Not sure [].
18. Do you plan to move out of the house in the nearest future? (a) Yes [] (b) No [] (c) Not sure []
19. If yes, please state why: -----

SECTION C: SATISFACTION WITH PHYSICAL ELEMENTS OF THE HOUSING UNIT

Please rate the level of your satisfaction with the following:

INDICATORS	5	4	3	2	1
20. Condition and quality of the wall					
21. Condition and quality of the roof					
22. Condition and quality of the floor					
23. Condition and quality of the ceiling					
24. Condition and quality of the doors					
25. Condition and quality of the doors					
26. Condition and quality of the windows					
27. Condition and quality of the layout and building design					

SECTION D: SATISFACTION WITH FACILITIES, UTILITIES AND AMENITIES IN THE HOUSING UNIT

Please rate the level of your satisfaction with the following:

INDICATORS	5	4	3	2	1
28. Availability and quality of water supply					

29. Availability of electricity (Hours)					
30. Quality of drainage system					
31. Quality of waste disposal system					
32. Availability of landscaping elements (Greenery)					

SECTION E: SATISFACTION WITH INDOOR AND OUTDOOR PERFORMANCE OF THE HOUSING UNIT

Please rate the level of your satisfaction with the following:

INDICATORS	5	4	3	2	1
33. Ventilation					
34. Lightening					
35. Kitchen configuration					
36. Wall finishing					
37. Floor finishing					
38. Roofing					

SECTION F: SATISFACTION WITH FUNCTIONALITY OF THE FACILITIES IN THE HOUSING UNIT

Please rate the level of your satisfaction with the following:

INDICATORS	5	4	3	2	1
39. Water facilities					
40. Kitchen facilities					
41. Toilet facilities					
42. Electrical facilities					
43. Drainage system					
44. Fire service facilities					
45. Waste collection and disposal facilities					

SECTION G: SATISFACTION WITH THE LEVEL OF SUSTAINABILITY OF THEHOUSEHOLD FACILITIES AND UTILITIES

Please rate the level of your satisfaction with the following:

Please

INDICATORS	5	4	3	2	1
46. Wall					
47. Roof					

48. Ceiling					
49. Landscaping					
50. Energy sources					
51. Water sources					

SECTION H: SATISFACTION WITH THE LEVEL OF SAFETY IN THE ESTATE

Please rate the level of your satisfaction with the following:

INDICATORS	5	4	3	2	1
52. Safety of life (Day)					
53. Safety of life (Night)					
54. Safety of properties (Day)					
55. Safety of properties (Night)					

SECTION I: SATISFACTION WITH CHARACTER AND FACILITIES IN THE ESTATE

Please rate the level of your satisfaction with the following:

INDICATORS	5	4	3	2	1
56. Trust					
57. Neighbourhood ties					
58. School(s)					
59. Market					
60. Road network					
61. Electricity					
62. Health care					
63. Recreation					
64. Distance to work place					
65. Distance to the Central Business District (CBD)					
66. Waste management system					

SECTION J: NEIGHBOURHOOD CHOICE ELEMENTS

Please kindly identify and rate the extent to which these facilities influence your choice of neighbourhood

INDICATORS	5	4	3	2	1
67. Population density					
68. Religion					
69. Tribe / Ethnicity					
70. Layout of the estate					
71. Social status					
72. Population characteristics					
73. Reputation					
74. Proximity to school					
75. Proximity to market					
76. Proximity to the CBD					
77. Proximity to work place					
78. Proximity to bus stop					
79. Security Architecture					
80. Household size					
81. Neighbourhood ties					
82. Cost of transportation					
83. Location of the neighbourhood					
84. Low housing rent					
85. Availability of electricity					
86. Availability of vacancy					
87. Quality of housing units					
88. Connectivity (Circulation)					
89. Availability of water					
90. Good waste disposal system					

THANK YOU VERY MUCH